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ABSTRACT

This monograph contains 13 papers on the ethics of planning, conducting, and reporting research in health sciences education. It includes four background papers and nine perspective papers. The titles are: (1) "The Imperative for Ethical Conduct in Scientific Inquiry" (Steve M. Dorman); (2) "Fundamental Principles of Ethical Research in Health Science Education" (Mohammad R. Torabi); (3) "Guidelines for Ethical Faculty/Student Collaboration in Health Science Education Research" (Barbara A. Rienzo); (4) "Ethical Issues in Writing for Scientific Publication" (R. Morgan Pigg); (5) "The Public Health Perspective" (Lloyd J. Kolbe); (6) "The Voluntary Health Agency Perspective" (John R. Seffrin, Gerald J. Maburn); (7) "The School Perspective" (M. Elizabeth Collins, Laura Kann); (8) "The Worksite Perspective" (Jill W. Varnes); (9) "The Private Sector Perspective" (Karin Coyle, Douglas Kirby); (10) "The Clinical Perspective" (L. Kay Bartholomew, Guy S. Parcel, Ann E. Saunders); (11) "The Biomedical Perspective" (Elaine J. Stone, Joan P. Porter); (12) "The New Faculty Member's Perspective" (Delores C. S. James); and (13) "The Student's Perspective" (James T. Broadbear, Barbara C. Broadbear). Chapter 14 presents the Association for the Advancement of Health Education's "Code of Ethics for Health Educators." (Most papers contain references.) (JB)

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The Eta Sigma Gamma

Monograph Series

ETHICAL ISSUES OF SCIENTIFIC INQUIRY IN HEALTH SCIENCE EDUCATION

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Monograph Series

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ETHICAL ISSUES OF SCIENTIFIC INQUIRY IN HEALTH SCIENCE EDUCATION

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PROLOGUE

"Ethics" delineates what we consider acceptable and unacceptable conduct regarding professional practice in Health Science Education. Ethical conduct is particularly important to professional health educators, since we belong to a profession with a mission to serve the individual. Thus, to professional health educators, ethical conduct represents an expectation rather than a rule. We voluntarily adhere to ethical principles from an inherent desire to render our highest form of acceptable service. Consequently, ethical principles guide both professional practice and research. In regard to scientific inquiry, such principles enable us to conduct important research in an environment that confirms dignity and respect for the individual.

This monograph presents an interesting, comprehensive, and at times provocative look at the ethics of planning, conducting, and reporting research in our field. Opening with a paper from the National President of Eta Sigma Gamma on the importance of ethical conduct to the mission of the Honorary, the monograph provides three background papers addressing basic principles of ethical research, ethics in publishing, and guidelines for faculty student collaboration. Then, nine carefully targeted "perspectives" share the authors' views on ethics from their particular worksite or setting. These papers confirm that, while certain generic principles form a foundation for ethical conduct, the specific context in which those principles are applied can dramatically affect the decisions we make. Finally, the monograph includes the new "Code of Ethics for Health Educators" from the Association for the Advancement of Health Education.

As Guest Editor for the Monograph, I extend appreciation to the ESG Executive Committee for the vision to support this important project; to Dr. Mohammad R. Torabi, Editor for the ESG Monograph series, for his expression of confidence and support; and to the Monograph authors for the excellent material they contributed. I feel privileged to be part of this process. The

project reaffirmed my belief that, whether in research or practice, professional health educators genuinely care about people. You sincerely want to do the right thing. Therein lies the real strength of our unique field. Perhaps this monograph will support that quest in some small way.

R. Morgan Pigg, Jr.
Gainesville, Florida

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PREFACE

On behalf of the National Executive Committee of Eta Sigma Gamma, I would like to express my sincere appreciation to the distinguished Guest Editor of this issue, Dr. R. Morgan Pigg, Jr. for the significant contribution he has made to the profession and Eta Sigma Gamma. He has gone beyond all expectation in preparing and editing this timely first-class monograph on Ethical Issues of Scientific Inquiry in Health Science Education. He has set a new standard for future guest editors for which he deserves our sincere thanks. Further, I would like to thank all of the authors who ultimately made this monograph possible. I genuinely appreciate their contributions to the **Monograph Series**.

I would like to thank Ms. Terri King for her assistance in preparing the final publication and Ms. Joyce Arthur for her technical assistance. Also, the general assistance of Ms. Kathy Kennedy, National Staff secretary of ESG, and the staff of the printing service of Ball State University is appreciated. Last, but not least, I would like to offer many thanks to Dr. James McKenzie, National ESG Treasurer Secretary, for his general support and assistance.

For your information, the next issue of the **Monograph Series** will be on Graduate Education in our field. Finally, I would like to thank you for sharing your comments with me regarding these publications. As always, I am eager to hear your criticism, comments, and suggestions relative to the **Monograph Series**.

I look forward to hearing from you.

Mohammad R. Torabi, Ph.D., M.P.H.
Editor, Monograph Series

CHAPTER 1

THE IMPERATIVE FOR ETHICAL CONDUCT IN SCIENTIFIC INQUIRY

Steve M. Dorman, Ph.D., M.P.H., C.H.E.S.

Recent news reports reveal substantial misconduct in science. For example, a national survey was conducted of 259 deans of graduate schools concerning the conduct of science at their schools. Among institutions that received more than 50 million dollars in outside grants, 40% reported confirmed cases of scientific misconduct in the five years prior to the survey (Hilts, 1992). Similarly, in a study regarding the practice of science at institutions of higher education, 43% of students and 50% of faculty reported direct knowledge of more than one type of misconduct in their labs -- from falsifying results to withholding findings from colleagues (Hilts, 1993).

While much of the national attention on scientific fraud has focused on the biomedical sciences, the health education discipline is not immune to potential ethical violations in scientific inquiry. Limited information has focused on ethical issues surrounding the process of scientific inquiry in health education (Vitello, 1986). Research methods courses taken by health educators traditionally examine ethics of the research and publication process (Iammarino, O'Rourke, Pigg, & Weinberg, 1989).

IMPERATIVES FOR ETHICAL CONDUCT

Why should we practice ethical decision making in scientific inquiry in health education? Several imperatives demand ethical conduct in scientific inquiry:

The nature of science. The nature of scientific inquiry assumes a search for truth. Ideally, science seeks to illuminate truth and add to an existing body of knowledge. Science attempts to answer with accuracy and evidence the great truths of how, why, when, where, and what. Unfortunately, in the real world, science is not free from bias or from speculative error. While "true science" always involves seeking truth, some would corrupt truth to advance their own agendas. Still others err by accepting unproven speculation and presenting it as fact. The public assumes "science equals truth," and it is difficult for the average consumer of scientific information to validate the scientific literature, so it is especially important for those practicing scientific inquiry to be ethical.

The nature of the discipline. The nature of our discipline creates a special imperative for ethical conduct in scientific inquiry. Because health education is a "helping profession," people tend to trust our judgment and sometimes adjust their lives based on what we say. Therefore we have an awesome responsibility to be correct in our science and instruction, reflecting the most accurate understanding of scientific information as known.

Educators serve as role models. As educators, health educators have a responsibility and an imperative to model appropriate techniques of scientific inquiry to our students, patients, and clients. Consequently, we must exhibit ethical behavior in our research, teaching, and service. In each of these areas we serve as models not only to our immediate audiences but to a greater audience who may at a later date become cognizant of our work.

The impact of unethical conduct in scientific inquiry. Unethical conduct in scientific inquiry produces lasting effects. Personal reputations can be destroyed because of scientific misconduct. Similarly, reputations of those around the researcher may be tarnished. As a consequence, their future contributions may be suspect. Additionally, future funding may be jeopardized. Ultimately, the reputation of the discipline and the institu-

tion with which the researcher is associated may be harmed. Also, since one research study may yield a line of additional projects based on findings from the original work, misconduct can lay a foundation for future studies which may be incorrect in their approach and basis. Similarly, since research studies provide information which may influence other health education practitioners, those practitioners may make incorrect decisions based on faulty research.

THE ETA SIGMA GAMMA PERSPECTIVE

As the professional honorary society serving the discipline of health education, Eta Sigma Gamma assumes a leading role in advocating ethical conduct in scientific inquiry.

Dr. Warren E. Schaller, founder of the Honorary, stated that "its principal purpose is to elevate the standards, ideals, competence and ethics of professionally trained men and women in the health science discipline (Schaller, 1975)." The implication of the term, "Honorary," implies professional recognition for competent service. Hence, Eta Sigma Gamma, the health education honorary, stands for and promotes service that is ethical and exemplary.

Codes of ethics alone do not make a profession ethical. We applaud efforts to develop a systematic set of statements upon which we uniformly agree. Yet, codes alone prove inadequate in defining the character of professional life. Rarely do they adequately express the fundamental values upon which professions are founded. Codes hold no value until they are actively used and interpreted. Codes should not be expected to motivate unethical people to act ethically (Fain, 1992).

Professional integrity in scientific inquiry depends greatly on one's personal integrity (Iammarino et al., 1989). Professional actions in research and publication reflect the values of the profession and the values of the individual. Ethical practice in scientific inquiry depends on the profession enunciating its values

and on practitioners making ethical decisions based on individual aspirations of ethical character and morally reflective practice (Fain, 1992; Penland & Beyrer, 1981).

As a discipline, our future depends on our students, so we must continue to encourage professional preparation programs to integrate principles of ethical conduct into general coursework and especially in research methodology courses. As writers, reviewers, and scientists, we must insist on the highest of ethical practices in publication and research. As practitioners, we must seek to actively practice ethical behavior in our service and teaching. Individually, we must aspire for a reputation which reflects a life of personal integrity. The wisdom of King Solomon probably puts it best: "*A good name is more desirable than great riches; to be esteemed is better than silver or gold.*"

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CHAPTER 2

FUNDAMENTAL PRINCIPLES OF ETHICAL RESEARCH IN HEALTH SCIENCE EDUCATION

Mohammad R. Torabi, Ph.D., M.P.H.

This article discusses fundamental principles of ethical conduct related to social, behavioral, and psychological aspects of health science education research. These fundamental principles include human subjects, human subject committees, accurate analysis of data, and reporting of results. The sections on human subjects and human subject committees were synthesized from Protecting Human Research Subjects: Institutional Review Board Guidebook (1993).

HUMAN SUBJECTS

The National Institutes of Health (NIH) issued policies for protection of human subjects as early as 1966. Promulgated to the Department of Health, Education, and Welfare, regulations on protection of human subjects first became effective on May 30, 1974. Later that year (July 1974), the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research was established through passage of the National Research Act. In mid-1978, the National Commission submitted its report which set forth basic principles underlying acceptable conduct of research involving human subjects. The following principles were accepted as three quintessential requirements for ethical conduct involving human subjects:

1. "Respect for persons involves recognition of the personal dignity and autonomy of individuals, and special protection of those persons with diminished autonomy;"
2. "Beneficence entails an obligation to protect persons from harm by maximizing anticipated benefits and minimizing possible risks of harm;" and
3. "Justice requires that the benefits and burdens of research be distributed fairly."

The first principle dealing with respect for individuals involved in research requires researchers to obtain informed consent in advance. Informed consent means that an individual voluntarily, with adequate knowledge and understanding of the relevant information, agrees to participate in the research. Obtaining informed consent may not necessarily mean waiving any of the individual's legal rights. The investigator, sponsor, or institution still can be held liable for negligence. In obtaining informed consent, the question of confidentiality (or privacy) raises an important related issue. Confidentiality means that subjects disclose information to researchers with the understanding that the information will not be divulged to others without the individual's permission.

Subjects should retain control over the extent, timing, and circumstances of sharing themselves with others. Informed consent, or active permission, differs from passive permission. The latter refers to parents' or guardians' agreements on behalf of their children or wards to participate in research. This agreement is made apart from, or even against, the subject's wishes. Here a fundamental assumption holds that the agreement will do the subject good.

The second principle mentioned above relates to beneficence. This principle deals with the concept that subjects are engaged in a risk benefit situation. Subjects have the right to be fully and accurately informed about the nature, magnitude, short and long-term benefit, and risk involved as the result of their participation in research. The principle of beneficence

focuses on protecting the subject from harmful effects and considers benefits gained not only for the subject but for society as well. Generally speaking, the risk benefit ratio should be in favor of benefit. Brutal or inhumane treatment of a human subject is never ethically justified. Any risk to the subject should be minimal.

The third principle of justice requires that subjects be fairly selected. Justness of subject selection implies subjects should not be selected because of biases. Selecting subjects because they are either desirable or undesirable is an ethically unacceptable practice. For example, in the past, major funded health research mainly used male subjects. Consequently, researchers learned a great deal about the nature, methods of control, treatment, and prevention of chronic conditions such as heart disease, cancer, and stroke among the male population. Yet, benefits of findings from these studies may or may not apply to the female population.

HUMAN SUBJECTS COMMITTEES

The Institutional Review Board (IRB) is established as an administrative body to protect the rights and well-being of subjects asked to participate in research under the jurisdiction of the institution with which it is affiliated. The institution could be a school, college, university, clinical setting, etc. This body has the power to approve, disapprove, or ask for modification of a research protocol. Federal policy asks that the IRB have at least five members from diverse ethnic backgrounds with experience and expertise to protect the rights and welfare of subjects.

With regard to the extent of an IRB's jurisdiction, the federal regulation applies "to all research involving human subjects conducted, supported, or otherwise subject to regulation by any federal department or agency." However, some research, such as educational testing and survey studies, may be exempt from federal regulation. This exemption applies only when anonymity of subjects is assured and disclosure of data does not

place subjects at risk of liability or of creating negative consequences for subjects. Some institutions may require all research requiring human subjects to be reviewed by the IRB.

As former Chair of a Human Subjects Committee for Indiana University's School of Health, Physical Education, and Recreation, I gained valuable experience and insight about the process and what an IRB typically looks for in behavioral research involving human subjects. Consider the following tips.

Even when we are certain that a research project poses no risk whatsoever to the human subject, we are expected to submit a protocol to the respective IRB. Recognizing that researchers do not want to engage in more paper work than is necessary, it still is better to be "safe than sorry." The review process for most educational and behavioral research proposals can be expedited and approved if certain steps are taken properly in advance. These steps are based on the three principles mentioned on the protection of human subjects in research.

Putting yourself in the shoes of the subjects is an important start. Ask yourself this question, "If I were the subject, would I feel reasonably protected from any harmful risk?" If the answer is yes, the researcher should proceed with preparing an application for the IRB with proper, accurate documentation of possible risks or benefits to the subjects. It is critical to have a written informed consent form indicating the purpose of the research project, anonymity of subjects, and confidentiality of the data. It is essential to include a statement on the informed consent form such as "Participation in the study is both anonymous and voluntary." It is important for an IRB to see the detailed procedures assuring anonymity for the purpose of protecting the human subjects.

Research projects that involve minors, retarded persons, at-risk human subjects, or when potential risk is involved, an IRB requires extensive documentation and a more specific protocol for the review process. Using special populations such as minors requires parental or guardian permission. When investigators start conducting the actual research, retain a copy of the IRB's

approved application for ready reference. The research project phase involving human subjects must follow the exact protocol approved by the IRB. Anticipated deviation from the original protocol must be reported to the respective IRB for approval prior to implementation.

ACCURATE ANALYSES OF DATA

Jaffe and Spirer (1987) identified five categories of statistical misuses and their subcategories (see Table 1). Misuse of statistics can range from a simple lack of knowledge about the subject matter to deliberate suppression of data. For full discussion of these categories, refer to Jaffe and Spirer's book on misuse of statistics.

Table 1. Jaffe and Spirer's (1987) Five Categories of Statistical Misuses and Their Subcategories.

1. Lack of knowledge of subject matter
2. Quality of the basic data
   - a. Flaws
   - b. Bias
   - c. Bad definitions
3. Preparation of the study and the report
   - a. Design of the study and report
   - b. Graphic presentation
   - c. Interpretation of findings
   - d. Presentation of results
4. Statistical methodology
   - a. General
   - b. Erroneous calculations
   - c. Regression
   - d. Sampling
   - e. Variability
   - f. Verifiability
5. Deliberate suppression of data

Analysis of data represents one of the most important dilemmas encountered in behavioral and educational research. Analysis of data becomes an ethical issue when researchers knowingly use inappropriate statistical techniques in analyzing data to achieve desired outcomes. Jaffe and Spirer (1987) defined misuse of statistics as "using numbers in such a manner that either by intent, or through ignorance or carelessness the conclusions are unjustified or incorrect." While prevalence of this practice is not known, the practice represents a serious violation of ethical conduct in the process of research and scholarship (Hooke, 1983). The self-corrective practice known as replication, an accepted practice in research methodology, may eventually detect a flaw of this nature which can embarrass the researcher and the institution.

Another ethical violation involves direct manipulation of the process by subjecting data to multiple statistical methods until one achieves the desired outcome. It is sound practice to analyze data using, for instance, univariate and multivariate techniques to better understand and interpret the data. However, analysis becomes an ethical problem when one selects the ideal and desired outcome and ignores the rest.

Another possible ethical problem relates to bias in selecting or eliminating a portion of data prior, during, or after data analysis. One of my consultees once innocently suggested that we eliminate a portion of the data that were not in congruence with the rest of the data. Such a suggestion represents lack of knowledge about research inquiry rather than deliberate ethical misconduct. Nonetheless, bias can change the results of research and lead to wrong decisions.

A general principle of data analysis recommends using the most appropriate, yet simplest, statistical techniques in research so findings can be better understood, interpreted, and communicated. While advanced techniques of data analysis may be required for understanding complicated research problems and data, using sophisticated statistical tools to impress editors,

reviewers, and readers of professional journals may be inappropriate.

Fortunately, most of these potential ethical problems related to data analysis can be avoided if basic principles of statistical analysis are understood and followed. First, seek assistance from experts in data analysis if you lack the expertise needed. This practice can save time, effort, and potential future embarrassment. Second, understand the nature of your data before pursuing the analysis. Carefully distinguish among the four classes of data: nominal (categorical), ordinal (rank), interval (equal interval with arbitrary zero value), and ratio (interval data with absolute zero value). Also, distinguish among nominal, ordinal, and interval ratio types of data. The first two classes often require nonparametric statistical methods while the latter group requires parametric methods. Thus, knowledge about the nature of the data can provide the initial guidance for analysis.

REPORTING OF RESULTS

Researchers often avoid reporting non-statistically significant findings, though such findings could represent an important discovery. The reluctance may be due partly to attitudes of some reviewers and editors of professional journals. Attitudes still exist that if findings are not statistically significant, the results are worthless. To the contrary, non-statistically significant results in testing null hypotheses can represent a breakthrough. For instance, if researchers found no statistically significant relationship between caffeine consumption and breast cancer incidence, this important finding should be published and disseminated.

Generating statistically significant findings is not particularly difficult. For instance, by increasing the sample size, researchers can generate statistically significant (but meaningless) results and reject virtually any null hypothesis. Thus, merely reporting significant results without a conceptual or theoretical framework can be meaningless. Further, not every statistically

significant result proves important for practical significance (Torabi, 1986). Reporting significant results without reference to the type of statistical test used or the magnitude of the Type I or Type II errors (Torabi, 1992) also can be troublesome. The "statistic" (i.e. mean, standard deviation), which is a number that describes some characteristics, should be reported with the test results so readers can grasp the practical significance of the findings.

Thus, the underlying ethical principle for reporting significant or non-significant results is simple: Report both the significant and non-significant findings.

Another ethical issue involves whether or not to report negative results. Researchers hold their own personal and professional biases. From a methodological standpoint, bias in any form must be eliminated. Bias often stems from an investigator's belief about a theory, idea, or personal observation. However, a much more serious ethical violation can occur with financial sponsorship. An ethical issue also can emerge when results do not support the theory or idea. Thus, the researcher may choose to report or not report a portion of the results.

With commercially sponsored research, integrity of the scientific methodology must be held to the highest standard. To avoid any violation of ethical standards, researchers must maintain full autonomy over the process, and the findings must be reported fully and accurately. This concept should be fully understood, confirmed in writing, and signed by the sponsors and researchers.

Differences exist between commercial sponsors and funding agencies such as the National Institutes of Health (NIH) or the Centers for Disease Control and Prevention (CDC). These agencies employ qualified researchers as staff members. Researchers with NIH or CDC can work with outside researchers as a team to conduct research. In such scientific collaborative efforts little chance exists for ethical violations in the scientific process. However, it may prove difficult to draw a line between

integrity of the scientific process and the commercial agency's research agenda. Consequently, researchers may face an uncomfortable position if desirable outcomes from the sponsor's perspective are not achieved. Thus, researchers may feel pressured to compromise which can lead to violations of ethical conduct. Researchers should avoid commercially sponsored research unless the integrity of the scientific process can be fully guaranteed.

Partitioning data (also referred to as fragmenting, the least publishable unit, or multiple articles) has become a serious ethical issue. Partitioning can occur in the form of deliberate segmenting of the data set. For example, in a study on knowledge and attitudes of college students, a researcher may decide to generate three articles: one on knowledge, one on attitudes, and one on their relationship. This single study examined student knowledge and attitudes and should be reported as such. The driving force behind partitioning is the "publish or perish" mentality at the research institutions and the notion of dominance of quantity over quality in publications. However, multiple manuscripts also may be published for legitimate reasons. For instance, a broad study which includes quantitative and qualitative components for discrete purposes legitimately can be reported in two articles that serve the two audiences.

CONCLUSION

Deviation from standard practices of scientific inquiry often stems from lack of established professional ethical standards in a field or lack of knowledge about such standards. It is almost impossible to read individual minds when they take an action (Jaffe & Spirer, 1987). Yet, I believe most researchers in health behavior and education are dedicated and sincere professionals who strive to uphold the highest ethical standards for our field. Universities involved in professional preparation of future professionals should accept greater responsibility for educating

students regarding ethical standards related to conducting research using human subjects. We need to promote Edgar Dale's assertion (1984) that "a scholar is one who tries to find his own mistakes."

Likewise, no article on ethical standards should ignore what Socrates taught in the following statements compiled by Dale (1984). "No man is so thoroughly right as to be entitled to say that others are totally wrong. It is well to affirm your own truth, but it is not well to condemn those who think differently."

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CHAPTER 3

GUIDELINES FOR ETHICAL FACULTY/STUDENT COLLABORATION IN HEALTH SCIENCE EDUCATION RESEARCH

Barbara A. Rienzo, Ph.D.

Studies of professional publications indicate an increase in collaborative work within academia in general (Fritz, 1985; Iammarino, O'Rourke, Pigg, & Weinberg, 1989; Costa & Gatz, 1992). A significant subsection of these projects results from faculty-student joint efforts (Costa & Gatz, 1992). Faculty motivation to involve students in their research is stimulated by their role as teachers to develop (particularly graduate) students' research skills (Iammarino et al., 1989). For faculty, these publications and presentations provide tangible evidence of their mentoring role as well as their contribution to the scholarship mission of their departments and universities. Moreover, according to numerous authors, collaboration is further encouraged by the crucial role publication plays in decisions regarding faculty tenure, promotion, status, credibility, salary, and ability to procure external funding (Iammarino et al., 1989; Fine & Kurdek, 1993; Costa & Gatz, 1992). Benefits to students include developing valuable research skills, becoming enthusiastic about the investigative process, and gaining the experience of presenting and publishing new ideas.

However, several potential disadvantages can result from these endeavors, including serious abuse and exploitation and decreased quality control of research. Therefore, issues underlying these outcomes, especially potential harmful effects, warrant

careful examination. This paper discusses the major problems found in these work relationships and presents recommendations for optimizing the chances for positive, productive student-faculty collaboration.

ISSUES

When more than one person is involved in a research project, as is increasingly common in health science education as well as other fields (Iammarino et al., 1989), ambiguity about the relative contribution of everyone involved can result in disagreements regarding authorship credit. In addition, the nature of the student-faculty relationship, an inherently unequal one (Costa & Gatz, 1992), may result in exploitation and unfair treatment of subordinates. Finally, ignorance of the criteria for authorship (Fritz, 1985) and lack of standard practices for student-professor collaborative relationships (Iammarino et al., 1989) account for some of the confusion and problems which occur.

Process

Problems which can arise among collaborators include--but are not limited to--participants' responsibilities and expectations, their inclusion and order in authorship, and their access to the data. Failure to resolve these issues satisfactorily can lead to tension, hostility, termination of the publication, and formal grievances (Fritz, 1985; Iammarino et al., 1989; Austin & Baldwin, 1991; Costa & Gatz, 1992). The unequal power relationship between faculty and students potentially can result in exploitation of subordinates (Campbell, 1987; Austin & Baldwin, 1991).

Concerns also have been raised regarding faculty relationships with women and with minority group students. While full discussion of these considerations lies outside the scope of this paper, women and minorities, in particular, experience difficulty establishing master-apprenticeship relationships that often prove significant to career development and which are traceable to graduate school. This impediment to success is most pronounced

for African-American women; evidence indicates they suffer from a lack of professional support from colleagues resulting in feelings of isolation and alienation while also facing "particularly heavy expectations for their involvement in committees and departmental work, as role models for minority students, and as spokespeople for minority issues" (Austin & Baldwin, 1991, p. 79).

Authorship

Two issues--giving undue credit and excluding a principal participant--emerge as problems for all collaborations, with special considerations when students are involved. Again, the unequal nature of the faculty-student relationship can result in faculty taking authorship credit earned by students or faculty granting students undeserved authorship credit (Fine & Kurdek, 1993). Both are problematic.

Granting undeserved authorship credit traces its roots to faculty fear of being considered selfish; their lack of confidence to take responsibility for results; their desire to help associates; their wish to associate with a co-author's reputation; their (mis)belief that editors favor papers with multiple authors; or simply ignorance of criteria (Fritz, 1985). Regardless of motivation, unearned publications falsely represent an individual's expertise and competence, give unfair advantage over a less-published peer, and establish expectations for performance that may be outside the student's range (Fine & Kurdek, 1993). Austin & Baldwin (1991) cite accountability problems with multiple-authored papers due to problems in identifying those responsible for possible errors or ethical violations. Furthermore, the practice of nominal authorship does not comply with the ethical principle of justice (discussed below) incorporated into the American Psychological Association (APA) ethics code that professionals "take responsibility and credit, including authorship credit, only for work they have actually performed or to which they have contributed" (Fine & Kurdek, 1993, p. 1,142).

Increased incidence of authorship problems are traced not only to higher frequency of collaboration cited earlier, but to

changes in how faculty and students attribute credit particularly related to supervision of doctoral dissertations. In their investigation of the latter phenomenon within Psychology, Costa & Gatz (1992) found 1) advisors were assigned more credit than due according to the APA guidelines by both faculty and students; 2) a norm of automatic second authorship for advisors, even when sole authorship would have been more appropriate; and 3) under "high input" conditions, a "remarkable number" of faculty and students believed the advisor should be first author--a stance contrary to the APA guidelines which clearly state "only second authorship is acceptable for the dissertation supervisor" (Costa & Gatz, 1992, p. 354). The authors attribute granting greater credit to faculty to the pressure for publication. An alternative, probably less predominant, explanation suggests that students hope a faculty member's reputation will enhance their chances for publication (Fritz, 1985; Payne & Charnov, 1987). Costa & Gatz (1992) raise an additional issue, the professional competence of Ph.D. students when second authorship on a published dissertation is actually deserved.

RECOMMENDATIONS

Ethical Principles

Fine & Kurdek (1993) argue that three ethical principles--beneficence, justice, and parentalism--are most relevant to faculty-student professional relations. Basically, beneficence (also including nonmalfisence) obligates one to help others and avoid harm. To be just is to treat others fairly and grant them what they deserve. Parentalism--restricting the liberty of others, without their consent--is justifiable when such action either prevents harm they may do to themselves or produces some benefit they may not otherwise secure. Fine & Kurdek (1993) then use these principles to outline the obligations of faculty in their relations with students: faculty have the obligation to give students credit (such as authorship) where due (beneficence and justice); to award such credit on the basis of appropriate expectations for

their skill development (justice); and to include them in the decision-making process as competent, equal partners (i.e., not employing parentalism).

Planning

Because departments have responsibility for providing all graduate students with supervisors, the availability of appropriate faculty should be incorporated into the admissions process. In investigating and applying to degree programs, students should seek admission to programs with faculty who share their professional interests and who can help them gain skills to meet their career goals. Likewise, departments have an obligation to admit only those students for whom they can responsibly prepare professionally, including providing skilled, willing supervising faculty for their research.

Once enrolled, students should make every effort to seek those faculty with whom they share professional interests. This endeavor may include making appointments with potential advisors and enrolling in their courses (Iammarino et al., 1989). Departments could hold informal seminars where faculty share current research (Iammarino et al., 1989) as well as establish mentor programs where students are assigned to faculty who closely match their interests--especially important for minority students and women. While faculty should not be assigned arbitrarily to students as supervisors, they should be willing to share their expertise with qualified, motivated students without regard to their age, gender, ethnic origin, race, religion, or sexual orientation. As supervisors, faculty are obligated to maintain ethical standards in the conduct and reporting of research (Campbell, 1987; University of Florida Division of Sponsored Research, 1993).

Department faculty should agree on a process for becoming involved as supervisors for all types of students projects. Fine & Kurdek (1993) strongly assert that when collaborating, students, particularly at the graduate level, should be included fully in defining what level of authorship should be awarded each participant because they possess the autonomy, rationality, and

problem-solving ability to do so. Furthermore, these consultations need to occur prior to initiating the work to avoid parentalism and to fully incorporate choice through an informed consent process (Iammarino et al., 1989; Austin & Baldwin, 1991; Fine & Kurdek, 1993).

Designing a written agreement can provide a process which incorporates the necessary ingredients for informed consent and which facilitates making important decisions mutually prior to project initiation. Such agreements, discussed and signed in the initial stage of planning, can address "specific responsibilities and expectations for each party, acceptable forms of acknowledgement, authorship and order of authorship, access to the research data collected, appropriate use of the data, and expectations regarding future writing projects" as recommended (Austin & Baldwin, 1991, p. 72). The introduction to this document could provide information for students related to "how authorship decisions are made, the nature of professional and nonprofessional contributions to publications, the meaning of authorship credit and order, and the importance of both parties agreeing" on expectations (Fine & Kurdek, 1993, p. 1,144).

The faculty in the Department of Health Science Education, University of Florida, developed such documentation in Fall, 1993. First, the faculty discussed and agreed upon the principles underlying collaboration with students. This concordance formed the basis on which a written contract could be developed whenever students and faculty members agreed to work together. In addition, it provided the basis for discussion between the parties of potential contractual terms. An example of the written contract, called a "memorandum of understanding," was also provided in writing. A cover memorandum from the Department Chair explained the reasons for and affirmed this process. Finally, these documents were attached to the proposal form students routinely completed to register for all department "non-lecture" courses including such courses as Independent Study, Supervised Research, Research for Master's Thesis, and Research for Doctoral Dissertation (Appendix A).

Authorship Credit

Authorship credit should be granted when the participant in a project contributed in a creative, substantial way that was essential to its culmination (Fritz, 1985; Iammarino et al., 1989; Austin & Baldwin, 1991; Fine & Kurdek, 1993). This contribution needs to be scholarly and important (i.e., research design, direction of analysis, writing portions of results), not merely time and effort involved or minor contributions (i.e., supervision of data collection and analysis, providing an idea, or making editorial comments). Furthermore, authorship should not be granted solely because of higher status or authority, or withheld due to financial compensation (Austin & Baldwin, 1991; Fine & Kurdek, 1993).

Iammarino et al. (1989, p. 103) and Austin & Baldwin (1991, p. 71) summarized this issue with the following underlying question and answer: "Would completion of the project, or the paper, have been possible without the individual's contribution? If the answer is 'no,' the individual deserves recognition for authorship." Fine & Kurdek (1993), based on their interpretation of justice and the assumption that students have less power and competence than nonstudent collaborators, argue that students should receive deferential treatment in authorship decisions.

Health educators, like other professionals, should only receive authorship credit for work they have performed. Authorship order should be discussed in advance with all participating colleagues who contribute in a substantial, scholarly way to the project. Supervisors should be very careful to avoid exploitive relationships with students, and should treat students deferentially with regard to authorship credit if the students fulfill the responsibilities, based on their level of competence, to which they agreed. Authorship status for other contributors should be thoroughly discussed and agreed on by all parties as well.

In cases of theses or dissertations, as recommended by Costa & Gatz (1992), first authorship should be assigned to

students, with second authorship granted to the supervisors when they substantially contribute to the publishable manuscript or paper presentation. In the APA guidelines, second authorship is obligatory "if the supervisor designates the primary variables or makes major interpretive contributions or provides the data base" and is a courtesy "if the supervisor designates the general area of concern or is substantially involved in the development of the design and measurement procedures or substantially contributes to the write up of the published report" (Costa & Gatz, 1992, p. 354). Under no circumstances, no matter how benevolent the motivation, is it advisable to grant authorship credit to those who do not contribute in an intellectually meaningful way to the project.

Resolution of Disputes

When authorship concerns arise, both faculty and students are advised to consult with their colleagues and peers. Others outside the circle of involvement can sometimes increase understanding of issues and discern ways to resolve points of concern (Fine & Kurdek, 1993). If conflict continues, referral to a more formalized third-party process is recommended. This action may consist of ethics committees, institutional review boards, or department committees (Austin & Baldwin, 1991; Fine & Kurdek, 1993).

Continuing Education

As professional conditions change and proceed forth, issues related to faculty-student collaboration will continue to emerge. Therefore, it is important for discussion regarding issues surrounding this process to continue among faculty and with students. Ethical considerations regarding professional publications and presentations easily could be incorporated into research methods courses as well as courses in professional ethics. Given current trends in higher education related to importance of accountability for faculty in their teaching, research, and service missions, and the fact that faculty-student collaboration in research is related to all three, continuing deliberation seems imperative.

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Appendix A

GUIDELINES FOR FACULTY-STUDENT COLLABORATION
Department of Health Science Education
University of Florida

These guidelines 1) facilitate professional dissemination of results from faculty-student collaborative work, primarily through presentations at professional meetings and publications in professional journals; 2) develop a process to ensure fair and equitable acknowledgement of contributions made by project participants; and 3) accomplish this goal through professional ethical principles. These guidelines pertain to situations in which students work under faculty supervision within courses for which they receive credit (i.e., independent study, supervised research, and thesis and dissertation research) as well as to projects on which faculty and student collaborate voluntarily outside of formal coursework.

1. Students retain primary ownership of work for which they bear primary responsibility. Primary responsibility for a project generally results when one initiates, plans, conducts, and writes the report of project results.

2. As primary authors of project results:
   a. students' names should be listed first on disseminated reports, such as professional presentations and publications.
   b. with advice from their supervisor, students should determine whether, and the order in which, faculty collaborators are listed in disseminated reports to reflect all project contributors in a just manner. Determinations should be based on significance of the contribution faculty make to the project including, but not limited to, their role in its design, completion, and writing. The faculty role should

involve a substantive effort, beyond simple editorial comments and minor changes.

3. Even when students retain primary ownership, faculty retain the option to publish or present the students' work (with the student still listed first) if
(a) the student takes no action within a reasonable time period (approximately six months), and (b) the student gives written approval to the faculty member.

4. All parties to a collaborative project should sign a "memorandum of understanding" reflecting their agreement based on these guidelines. The memorandum should delineate terms under which the faculty member may initiate presentation and or publication of the project (see #3).

5. In case of a dispute between or among any participants in a collaborative project concerning any aspect of dissemination of results, the matter should be presented to the Graduate Advisory Committee for resolution, and, if not resolved, to the Department Chair.

(Approved October 29, 1993)

Appendix A

MEMORANDUM OF UNDERSTANDING
Department of Health Science Education
University of Florida

(Sample Outline)

This document describes terms under which Student X and Faculty Y agree to work collaboratively on the project described

below. A signature and date indicate voluntary acceptance of the following terms.

1. Project participants include Student X (SSN 000-00-0000) and Faculty Y.

2. The collaboration shall occur in the context of "HSC 7904 - Advanced Readings in Health Science Education." Student X shall enroll in HSC 7904, Section 0000, for 3 semester hours of credit, Fall Semester 19XX.

3. Under the direction of Faculty Y, Student X shall conduct a literature review and related research to (1) identify existing K-12 violence prevention curricula; (2) prepare a written report in journal article format of at least XXXX words describing, comparing, and contrasting the curricula; (3) compile a listing of resources for information and assistance on violence prevention.

4. Project results shall be submitted for presentation at (Conference) and for publication in (Journal).

5. Student X accepts responsibility for successful completion of the project as described in #3 above, including submission of the work for presentation and publication as described in #4 above. Faculty Y accepts responsibility for providing guidance to Student X throughout the planning, conduct, and successful completion of the project. Student X shall prepare and submit the presentation proposal, with assistance from Faculty Y. If accepted, Student X shall deliver the presentation if circumstances and funding permit. If not, Faculty Y retains the option to present. Student X shall prepare and submit the article manuscript, with assistance from Faculty Y.

6. Student X shall be listed as first presenter and first author. Faculty Y shall be listed as second presenter and second

author. If Student X does not submit a presentation proposal and or an article manuscript by (date), Faculty Y retains the option to prepare and submit a presentation proposal and/or article manuscript. If Faculty Y exercises this option, Student X still shall be listed as first presenter and first author. This signed memorandum constitutes written approval from Student X, should Faculty Y elect to exercise the option.

Accepted: _____ _____

Signature Date Signature Date

CHAPTER 4

ETHICAL ISSUES IN WRITING FOR SCIENTIFIC PUBLICATIONS

R. Morgan Pigg, Jr., H.S.D., M.P.H.

The process of reaching ethical decisions regarding research and publication differs little from processes used to reach ethical decisions in other areas of professional practice. Consequently, we derive guidelines for ethical practice in publishing within the broader context of ethical practice in the profession. Once the profession collectively agrees on guidelines that constitute acceptable and unacceptable practices in publishing, those guidelines provide the basis for action. While health educators have not formally identified acceptable publishing practices *per se*, our views generally parallel accepted publication practices in other areas of education and the sciences.

This paper describes five areas for potential violations of ethical conduct for authors, and discusses corresponding areas of potential concern for editorial staffs, peer review panels, and readers. Readers interested in a general resource on professional ethics in the discipline can refer to the book, The Health Education Ethics Book by Greenberg and Gold (1992). Likewise, for background information related specifically to ethics in scientific inquiry, consider reading the article, "Ethical Issues in Research and Publication" by Iammarino et al (1989).

ETHICAL CONCERNS FOR AUTHORS

Duplication

Duplication usually involves one of two actions: submit-

ting the same manuscript or its essence to two or more journals for simultaneous consideration, or submitting a previously published paper or its essence for consideration by another journal without disclosing the prior publication. Why does duplication represent a potential breach of professional ethics?

Some individuals, particularly students and young professionals, often express surprise that duplication may be unethical, particularly with simultaneous submissions. They reason that simultaneous submissions save time and increase the likelihood of acceptance. However, before considering a manuscript, professional journals often require the author or corresponding author to provide a copyright release and affirm that the manuscript or its essence has not been published previously or is not in simultaneous review by another publication. Thus, authors can face a dilemma if two journals accept the same manuscript, especially if neither editor will allow the author to withdraw the paper.

Other ethical considerations also argue against duplication. Journals exist to serve a unique mission and readership. Thus, professional journals accept submissions trusting that authors have prepared a discrete contribution to the literature with their specific readers in mind. Duplication violates that trust.

Likewise, duplicate submissions increase editorial staff time, reviewer time, and production costs. Also, if the duplication is detected, the author can suffer embarrassment–or worse–particularly if two journals publish the same paper or its essence, thereby providing a permanent record of the indiscretion. Refer to Abelson (1982) and Bier et al (1990) for information on the development of duplication and selected editors' perspectives on the issue.

Fragmentation

Fragmentation involves the preparation of multiple manuscripts regarding a topic that could be reported in one paper. As with duplication, fragmented publishing increases editorial staff time, reviewer time, and production costs. Likewise, multiple manuscripts increase the demand on electronic information

storage and retrieval systems, and increase the time, complexity, and cost of literature searches.

Perhaps no other topic generates as much debate among scientists as does fragmentation, also referred to as the "least publishable unit" (Broad, 1981), or merely "milking the data." Most agree the problem exists and should be addressed, but we lack consensus on what actually constitutes fragmentation and what actions should be taken. Given the escalating demand on academicians and researchers in all settings for increased scholarly productivity, the issue seems both understandable and inevitable.

Perhaps most scientists would agree, for example, that publishing separate papers for each demographic variable from a single data set represents fragmentation. Yet, how do we judge large-scale long-term projects that can include a theory, concept, or literature review paper; a baseline paper (perhaps with separate manuscripts reporting baseline data, and the instrumentation or protocol development); a mid-point paper; a follow-up paper (sometimes more than one); and the inevitable replication? Beyond presenting the subject of fragmentation for consideration, our options as a collective body of scientists on the matter are limited. Individual scientists ultimately must determine to their own satisfaction whether or not they fragmented their work.

Plagiarism

Plagiarism, whether intentional or unintentional, involves the inappropriate and unauthorized use of the "intellectual property" of others. Plagiarism is to intellectual property what burglary is to physical property. Both involve "theft" of property that belongs to another person.

Plagiarism can occur both in flagrant and in more subtle forms. Flagrant plagiarism involves the direct, verbatim use of text from another published source with no credit or acknowledgement of the original source. The plagiarist presents the material to the reader as his or her own work. Flagrant

plagiarism also can involve acquiring a paper from a colleague or student, then attempting to publish the paper exclusively under the plagiarist's name. More subtle forms of plagiarism involve merely rephrasing the ideas or essence of the original author's work, again without credit or acknowledgement.

To avoid potential plagiarism, obtain complete and accurate bibliographical information for all sources used as references for a manuscript. In addition to citing serials (periodicals) and monographs (books), include sources of information such as telephone conversations, written communication (standard mail, FAX messages), electronic communication (E-mail), and personal conversations if such exchanges involve the transfer of intellectual property essential for the work. Carefully document within the manuscript all uses of intellectual property from others, whether as direct quotations or as paraphrasing. Likewise, use the primary (original) sources rather than secondary (citing someone who cited the original) sources when possible.

Multiple Authorship

The escalating pattern of joint or multiple authorship began in earnest during the 1960's. As federal grant support increased to higher education, so did the need to publish papers from those grants in refereed journals. Subsequently, such publications became expectations for tenure and promotion, and for continued federal funding, thereby accelerating the cycle and prompting an increase in multiple authorship of papers. Thus, concern regarding the ethical conduct of research increased as well (Beecher, 1966; Mendenhall & Higbee, 1982; Relman, 1984; Huth, 1986; Pigg, 1990; Crase & Rosato, 1992).

Nothing about the practice of multiple authorship is inherently unethical. Given the complexity of contemporary research questions faced by health science education, collaboration among colleagues and even among disciplines often proves desirable, thereby justifying appropriate recognition to individuals for their contribution to the work.

Multiple authorship operates on the premise that all individuals named as authors contributed meaningfully to the paper

or project, and that the order in which names are listed accurately reflects each individual's relative contribution to the whole. The farther authors stray from this premise, the greater the likelihood that serious disagreements will occur.

Problems regarding multiple authorship often arise when the individuals involved did not agree clearly and specifically -- in advance -- on the nature of each individual's involvement and the appropriate recognition for that involvement. For example, in addition to preparing a research plan, the research or writing team should prepare a dissemination plan as well. This plan could address the number and type of manuscripts to be prepared from the project, each individual's responsibilities for the various manuscripts, and each individual's recognition (author credit and name order) for the manuscripts. While the plan may only include an outline of proposed dissemination activities, at least everyone involved can determine their role, responsibilities, and recognition. If the team desires a more structured agreement, consider transforming the dissemination plan into a contract or memorandum of understanding signed by the team members. Groups sometimes find the assistance of a neutral arbitrator, such as a senior colleague or department chair, helpful in developing details of the dissemination plan.

Unfortunately, actually determining authorship credit and name order prove much more difficult than the preceding discussion implies. The basic premise holds that authorship credit be reserved for colleagues who contribute meaningfully to the project, the publication, or both. If the colleague made contributions essential for success, authorship credit is warranted; otherwise, no. Therefore, granting authorship status for factors other than contributions essential for success represents "honorary authorship." However, realities of professional survival can cloud application of the premise.

For example, most faculty members probably would agree that department chairs do not deserve authorship credit for merely offering general comments about a manuscript draft. But

what about automatic honorary authorship, also referred to as courtesy authorship or nominal authorship, to a principal investigator for every publication derived from a large-scale, long-term project, even if the individual has limited knowledge of a specific publication? Students, faculty, and research scientists complain that supervisors often expect authorship credit, whether or not the supervisor contributed in a meaningful way to the publication. Supervisor's (advisors, department chairs, principal investigators, laboratory directors) counter that they deserve authorship credit for providing a context to support research that otherwise would not have been possible. As with manuscript fragmentation, only the individuals involved can reach a fair and appropriate solution, preferably by determining -- in advance -- their role, responsibilities, and recognition.

The use of footnotes and acknowledgements in publications also presents a potential ethical conflict regarding authorship credit. Besides the principal members of the research or writing team, numerous other individuals often are associated with a project: graduate assistants, statistical consultants, test site coordinators, project directors, office managers, copy editors, and service support staff. While all participated in the project, are all eligible for authorship credit? That question can best be answered by examining the contractual arrangements and methods of compensation applicable to each individual.

For example, individuals performing keyboarding provide that important service based on time and rate, with no promise or expectation of authorship credit. Other individuals outside the team receive appropriate compensation as well. However, acknowledgements or footnotes to publications should not be offered in lieu of deserved authorship credit. For example, authors X and Y acknowledge Dr. Z in an article footnote for "invaluable assistance with the research design and analysis for this project." If Dr. Z read a one-page proposal and suggested 2-3 statistical packages for consideration, the acknowledgement is probably appropriate and justified. However, if Dr. Z selected

the package, analyzed the data, and interpreted the data for authors X and Y, then Dr. Z deserves authorship credit. Dr. Z's contribution was essential for a successful project.

Ultimately, the colleagues involved in a project must decide what constitutes ethical and appropriate determination of authorship credit. Yet, the basic premise still holds true: individuals who receive authorship credit should contribute meaningfully to the project, the publication, or both. Did the individual provide a contribution essential to the success of the project, publication, or both? If yes, authorship credit is justified; otherwise, no. Likewise, regardless of the total number of authors listed for a publication, any author (first or last) should be prepared to explain and defend the project before colleagues. Based on this premise, the practice of courtesy, nominal, or honorary authorship becomes increasingly difficult to defend.

External Sponsorship

External sponsorship includes situations where a sponsor or benefactor provides funding or other support to underwrite the conduct of a study. In a sense, any type of funding (other than the researcher's personal resources) could be considered external support. However, the potential for ethical conflict intensifies if the sponsor holds a vested commercial, political, or philosophical interest in the outcome of the research.

Regardless of the source of support, researchers should ensure that the vested interest of a sponsor does not consciously or unconsciously influence the project. Likewise, determine clearly in advance who will own the data, and what limitations (if any) will be placed on the researcher by the sponsor.

While the preceding circumstances seem easy enough to manage in theory, the reality of professional survival can cloud ethical decision making. Whether the researcher receives public or private funds, do not underestimate the pressure to give sponsors positive results, or to withhold negative results, particularly when professional status, personal income, and even family welfare depend on the researcher producing information palatable to the sponsor in exchange for future funding.

A related issue sometimes present with external sponsorship involves alternative avenues for the release of original data. Traditionally, scientists expect that new data will undergo appropriate peer review prior to publication in a refereed journal, presentation at a refereed conference, or both. However, sponsors may seek to expedite dissemination of promising new data through alternative avenues such as news conferences, press releases, or informational publications prior to or instead of formal peer review. Despite its deficiencies, peer review remains the principal screening mechanism (other than personal integrity) for seeking quality control over release of new data. Consequently, researchers should use caution in deciding whether or not to participate in alternate channels for release of original data if those channels pre-empt or circumvent peer review, regardless of how appealing the circumstances.

ETHICAL CONCERNS IN THE EDITORIAL PROCESS

While much of the preceding discussion focused on ethical responsibilities and concerns for authors, integrity depends as well on appropriate actions by three additional groups in the editorial process: editorial staffs, reviewers, and readers.

Editorial Staffs

Editorial staff members for a professional publication face the somewhat precarious mandate of providing a quality product for readers while maintaining positive relations with the authors on whom they depend for unsolicited materials. Too much leniency and quality fades; too much rigor and authors become disgruntled. Success lies in setting reasonable standards and applying those standards fairly and uniformly to everyone.

Anonymity and confidentiality, the foundation upon which the credibility of a peer-reviewed journal rests, must be practiced and defended by the staff. For example, if a reviewer voluntarily provides uncomplimentary and irrelevant information about an author to the staff, that information remains with the staff. Divulging the information to others would be unethi-

cal. Likewise, whether positive or negative, bias has no place in staff relations with authors and reviewers. Ethical conduct requires that the staff provide consistent, impartial service to everyone.

Since more manuscripts are submitted to professional journals than can be published, editors face a potential ethical dilemma in determining the papers to be published. That dilemma intensifies if the editor or the staff unilaterally select the papers, rather than refereeing the papers through peer review. Regardless of the procedures used, the editor must accept responsibility for ensuring that manuscripts are evaluated fairly, objectively, and impartially.

With a peer review system, editors are obligated to ensure that reviewers are sufficiently knowledgeable, objective, and motivated to provide constructive reviews of substance for authors. Editors should avoid inadvertently (or intentionally) creating potential conflict through inappropriate assignment of reviewers to a paper. For example, even with double-blind review systems, where neither authors nor reviewers are identified, extraneous factors sometimes can lead to unintentional identification of authors or reviewers. Likewise, in fairness to authors, ineffective reviewers should be excused from the peer review panel if warranted.

Editors also are obligated to investigate alleged incidents of impropriety by authors or reviewers, such as reviewers attempting to profit personally from information gained through review of an author's manuscript, or authors attempting to duplicate or plagiarize. The editor's role in these situations involves investigating the case and taking appropriate action. Since such cases often involve "honest errors" of misunderstanding or miscommunication, editors can best serve the cause of supporting ethical conduct by carefully and objectively determining the facts before assuming intentional unethical behavior (DeBakey, 1974; Yankauer, 1990).

Since individual rights and professional reputations are at stake, editors must proceed with caution. Likewise, editors must

be concerned about potential charges of defamation, which can include charges of liable (written offenses), slander (verbal offenses), or both. Consequently, editors and colleagues must be certain about the facts of a case, including not only what the person did but what he or she *intended* to do, before lodging a formal complaint of unethical conduct against a colleague.

Peer Review Panel

Manuscript reviewers play an essential role in the quality control process of selecting papers for publication. Therefore, ethical conduct is essential. Peer reviewers should be knowledgeable in their area of specialization and objective in their approach to the review. They should maintain a balance between supporting established views and considering new ideas.

Reviewers should bring a positive attitude or motivation to the review process and be willing to spend adequate time to properly evaluate the work. Reviewers should excuse themselves from evaluating a paper if they lack sufficient knowledge about the topic, lack adequate time to prepare a quality assessment, hold any bias (positive or negative) toward the topic, or gain unauthorized information about the paper, such as the author's identity. Comments about the paper should be presented in detail, with a positive and constructive tone. Personal criticism of the author or the paper is inappropriate.

Readers

Readers assume many of the same responsibilities for ethical conduct as do authors, reviewers, and staff members. Readers should approach an author's work with neutrality, objectivity, and fairness. Take time to understand the author's objectives, then study the paper carefully to determine if the objectives were achieved appropriately. Then, whether citing or critiquing the work, take care to accurately represent the author's work both in detail and intent.

CONCLUSION

Media accounts paint a picture of a scientific community riddled by fraud. To the contrary, my experience with scholarship in health science education suggests a discipline intensely interested in promoting high ethical standards, both in research and practice. Perhaps this contrast reflects a genuine difference in the way we do business, or perhaps it reflects the fact that we do not depend for survival as heavily as other disciplines on NSF and NIH grants and the publications they require. In either case, health science educators seem genuinely interested in ethical conduct regarding their publications.

Violations of professional ethics regarding publications usually are inadvertent, often stemming from misunderstandings, misinformation, or miscommunication. Unfortunately, deliberate violations do occur and must be addressed. However, to avoid unintentional conflicts, consider the following:

1. Familiarize yourself with the topic of ethical conduct in research and professional practice, particularly in publishing, either through formal coursework or self-study;

2. Carefully study and comply fully with the author guidelines for publications to which you submit manuscripts;

3. Agree clearly and specifically with colleagues–in advance– concerning your role, responsibilities, and recognition as a member of a research or writing team;

4. Ask knowledgeable colleagues for advice when you have unanswered questions about appropriate ethical conduct, particularly regarding publications; and

5. Accept the fact that maintaining personal integrity generally, and professional ethics specifically, resides with each of us as individuals.

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CHAPTER 5

THE PUBLIC HEALTH PERSPECTIVE

Lloyd J. Kolbe, PhD

Public health strategies are designed to improve the health of populations (in contrast to individuals) by applying knowledge gained through scientific inquiry to influence biophysical and psychosocial environments, behavioral patterns, and provision of services that affect the health of those populations (Institute of Medicine, Committee for the Study of the Future of Public Health, 1988, p. 7; World Bank, 1993, p. 72). Educating populations to individually and collectively enhance such environments, behavioral patterns, and services can be a powerful public health strategy (International Union for Health Promotion and Education & World Health Organization, 1992; World Health Organization, 1994). The impact of such education depends upon the quality of scientific inquiry (i.e., research) conducted to generate required knowledge, and the quality of efforts to implement that knowledge. Ethics that govern the implementation of public health knowledge through health education have been described elsewhere (e.g., Patterson & Vitello, 1993; Association for the Advancement of Health Education, 1994).

Ethics that govern the quality of research conducted to generate public health knowledge can be divided into four categories: (1) ethics to assure no harm is done by the research; (2) ethics to assure that reported results are truthful; (3) ethics to assure that roles of researchers in generating results are appropriately characterized; and (4) ethics to assure that research results are used. For each of the first three categories, existing codes of

ethics that describe critical ethical issues and corresponding standards for public health research are summarized below. For the fourth category, critical issues are identified that might be addressed to assure that results of public health research are used more systematically. Among the various codes described, the federal codes were developed largely to regulate federally funded research. However, these codes illustrate critical ethical issues and standards that should be considered by all public health researchers. Finally, additional resources for training scientists in the ethics of public health research are described.

CATEGORIES OF ETHICAL STANDARDS

1. Ethical standards to assure no harm is done by the research. During the Nuremberg War Crime Trials, the Nuremberg Code was drafted as a set of standards for judging physicians and scientists who had conducted biomedical experiments on concentration camp prisoners. In the United States a system of regulations subsequently began to evolve to govern federally supported biomedical and behavioral research with human subjects. In 1991, 16 federal agencies adopted the core of these regulations in a common FEDERAL POLICY FOR THE PROTECTION OF HUMAN SUBJECTS (Office for Protection from Research Risks, 1994).

This policy requires that each institution funded by the federal government to conduct research with human subjects establish an Institutional Review Board (or IRB) to review and approve, modify, or disapprove all research protocols relevant to the policy. Each IRB is required to have at least five members with various backgrounds necessary to review research activities commonly conducted by the institution. In addition to including professional experts who can review specific research activities, the IRB should include experts who are able to assess the acceptability of proposed research in terms of institutional commitments and regulations, applicable law, and professional standards of conduct and practice.

To approve research covered by the Federal Policy the IRB must determine, according to written procedures, that all of the following requirements are satisfied: (a) Risks to subjects are minimized; (b) Risks to subjects are reasonable in relation to anticipated benefits, if any, to subjects, and the importance of the knowledge that may reasonably be expected to result; (c) Selection of subjects is equitable (i.e., researchers will not offer potentially beneficial research only to subjects whom the researchers favor, or select only "undesirable" subjects for risky research); (d) Informed consent will be sought from each prospective subject or the subject's legally authorized representative. In seeking informed consent, the researchers must inform each subject about the purposes of the research, any foreseeable risks or discomforts, any benefits to the subject or to others which reasonably may be expected, the extent to which confidentiality of records identifying the subject will be maintained, and inform subjects that participation in the research is voluntary; (e) Informed consent will be appropriately documented; (f) The research plan makes adequate provision for monitoring the data collected to ensure the safety of subjects; (g) Adequate provisions protect the privacy of subjects and maintain the confidentiality of data; and (h) When some or all of the subjects are likely to be vulnerable to coercion or undue influence, such as children, prisoners, pregnant women, mentally disabled persons, or economically or educationally disadvantaged persons, additional safeguards have been included in the study to protect the rights and welfare of these subjects.

Another source of harm from research is the burden imposed by participating in the research (i.e., the total time, effort, or financial resources required to respond to a collection of information). The Paperwork Reduction Act of 1980 was passed to minimize burdens associated with the collection of information by federal agencies from individuals, businesses and other private institutions, and state and local governments. As described in the Final Rule (Office of Management and Budget, 1988), the same information cannot be collected with federal

funding from 10 or more people within any 12-month period unless the sponsoring federal agency obtains approval from the Office of Management and Budget (OMB).

To obtain OMB approval for a collection of information, the sponsoring agency must demonstrate that it has taken every reasonable step to ensure the following: (a) The collection of information is the least burdensome necessary for the proper performance of the agency's functions to comply with legal requirements and achieve program objectives; (b) The collection of information does not duplicate information otherwise accessible to the agency; and (c) The collection of information has practical utility. "Practical utility" means the actual, not merely the theoretical or potential, usefulness of the information to an agency, taking into account the accuracy, adequacy, and reliability of the information, and the agency's ability to process the information in a useful and timely fashion.

2. Ethical standards to assure that reported results are truthful. In 1989 a Conference on Ethics in Epidemiology was convened, in part, to develop Ethical Guidelines for Epidemiologists (Beauchamp et al., 1991). These guidelines describe four sets of obligations:

(a) Obligations to subjects of research include obligations articulated in the previous section of the current article: to protect their welfare; to obtain their informed consent; to protect their privacy; to maintain confidential information; and to review research protocols (i.e., with an IRB or other appropriate body to assure scientific and ethical adequacy);

(b) Obligations to society include obligations to avoid conflicts of interest (i.e., to find results objectively rather than to find results desired by financial or institutional sponsors of the research); to avoid partiality (to find results free from personal biases or interest in proving personal preconceptions); to widen the scope of epidemiology (to provide full information about methods and findings to all audiences that might use it); to pursue responsibilities with due vigilance (i.e., by fulfilling each of the obligations in these guidelines with sufficient vigor); and to

maintain public confidence (e.g., by not understating or overstating the methods, results, or public health significance of a study);

(c) Obligations to funders and employers include specifying obligations (i.e., to inform employers and funders about how the research will be conducted and how it might create obligations such as those described in these guidelines); and protecting privileged information (which may be provided or generated during the research); and

(d) Obligations to colleagues include reporting methods and results (to enable others to critically assess the research and its finding); confronting unacceptable behavior and conditions (including misrepresentation, fraud, unethical behavior, illegal behavior, or incompetence); and, communicating ethical requirements (to collaborators, staff, assistants, student workers, and other involved parties).

A complementary set of Guidelines for the Conduct of Research within the Public Health Service (Office of the Assistant Secretary for Health, 1992) addresses ethical issues in supervising trainees, data management, publication practices, authorship, peer review, use of privileged information, and clinical and epidemiological research.

Public health knowledge generated by scientific inquiry usually is submitted for publication in relevant scientific journals to codify and disseminate the knowledge. Scientific journals employ objective peer reviewers to judge the quality of the scientific inquiry conducted to generate the findings, the consequent validity of reported findings, and the importance of the findings. Based upon these criteria, reviewers recommend to accept, revise, or reject submitted manuscripts. Uniform Requirements for Manuscripts Submitted to Biomedical Journals (International Committee of Medical Journal Editors, 1994) articulate procedures recommended for preparing findings for publication, and related ethical standards.

3. Ethical standards to assure that roles of researchers in generating results are appropriately characterized. Designating authors of publications confers credit to those who gener-

ated the knowledge. Such credit is used by researchers to acquire peer recognition, career promotion, and research resources. Designating authors also establishes accountability for the quality of the research which generated the knowledge. Readers often will judge the credibility of knowledge generated in part by the reputations of the authors and the institutions they represent. Guidelines on Authorship of Medical Papers (Huth, 1986) suggests ethical principles for determining authorship.

4. Ethical standards to assure that research results are used. The combined institutional, human, and fiscal resources required to conduct public health research is a precious commodity for which there is increasing competition. One could argue that the principal determinant for allocating public health research resources should be the extent to which results will be applied to improve public health. The argument to support more "basic research" that will not be used directly to improve public health legitimately may grow less compelling in the absence of strategies to more systematically apply results from all research.

Those who conduct research typically are trained and rewarded to apply for research resources, conduct the research, publish the findings, and then apply for new research resources. They usually are not trained or rewarded to help apply the findings, perhaps in part because few means have been established to do so. We assume each of those who develop and implement related public health policies or programs individually will monitor relevant journals, synthesize often complex if not contradictory findings, and methodically apply the results. This has not proven a particularly effective way to apply research findings. Accordingly, to improve the application of research findings to improve public health, those responsible for public health research and for implementing public health strategies might address the following ethical issues; and perhaps revise or develop related codes of ethics (relevant sections of the Paperwork Reduction Act and Ethical Guidelines for Epidemiologists notwithstanding).

(a) Researchers should describe why the knowledge they propose to generate is among the most critical required for improving the health of the population affected; and they should describe specific ways in which the findings will be used by the population or relevant agencies that serve the population. One means to facilitate such application is to involve relevant agencies and populations in developing the research project and applying its results. Somewhat relatedly, in the Fall of 1994 the Centers for Disease Control and Prevention (CDC) and the Society for Public Health Education (SOPHE) jointly will convene researchers to help build a health education research agenda, which will be described in a future issue of SOPHE's *Health Education Quarterly*.

(b) Those responsible for related public health research, policies, and programs should institutionalize ongoing mechanisms to iteratively synthesize research (e.g., via research registries, consensus panels, meta-analysis, research-based guidelines, multi-study cost-benefit analyses) and actively provide results in a form most usable by those who develop and implement policies and programs.

(c) Public health training programs should socialize and train students who focus on research, policy, and programs to synthesize and apply research, and should reward faculty for synthesizing and applying research.

(d) Journals should request that authors of research manuscripts describe why the knowledge they generated is among the most critical required for improving the health of the population affected; and describe specific ways in which the findings will be used by the population or relevant agencies that serve the population. Journals also should publish manuscripts that describe research syntheses and applications.

TEACHING ABOUT RESEARCH ETHICS

Given the complexity of ethics that govern scientific inquiry as outlined above, it is not surprising that a recent survey

found that 88% of faculty and 82% of graduate students believed that "ethical preparedness" training should be an important function of academic departments and universities (Swazey, Anderson, & Lewis, 1993). However, only four percent of these faculty and three percent of the students thought their departments were taking a very active role in this area. In addition to references previously cited, and the Eta Sigma Gamma Monograph (Pigg, 1994) on Ethical Issues of Scientific Inquiry in Health Science Education in which the current article is included, the following resources might be useful for training scientists who will generate knowledge for health science education.

To facilitate the exchange of bioethics curricula, course materials, and teaching methods, in 1985 the National Reference Center for Bioethics Literature at Georgetown University's Kennedy Institute of Ethics established the Syllabus Exchange Project. A current Syllabus Exchange Catalogue may be obtained free of charge by calling 800-MED-ETHX.

One of the functions of the U.S. Public Health Service's (PHS) Office of Research Integrity (ORI) is to promote research integrity through collaborative efforts with colleges and universities, scientific and professional organizations, and other Federal agencies. To help achieve this function, ORI publishes a quarterly *ORI Newsletter* that reports on timely issues, meetings, publications, and other resources. The newsletter is distributed to institutions that apply for or are awarded funds from the PHS to conduct research.

Finally, the American Association of Medical Colleges (1994) recently published Teaching the Responsible Conduct of Research Through a Case Study Approach: A Handbook for Instructors.

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CHAPTER 6

THE VOLUNTARY HEALTH AGENCY PERSPECTIVE

John R. Seffrin, Ph.D.

Gerald J. Mahurn

Leaders and managers of voluntary health agencies continually must engage themselves in matters with ethical dimensions. Decisions affecting operating procedures, program strategy and content, allocation of resources, and conduct of research are inextricably linked to organizational values, ethical behavior, and sound business practices. This paper reviews ethical concerns in each of the above areas and discusses implications for policy makers and managers of voluntary health agencies.

ETHICAL ISSUES IN OPERATIONS

The American Cancer Society is a nationwide network of community volunteers dedicated to eliminating cancer as a major public health problem. Through their efforts, the Society raises approximately $360 million annually to provide a range of community services with $100 million allocated to peer reviewed, investigator-initiated research in cancer cause, prevention, and control (ACS, 1993). To sustain this level of activity over time requires an implicit trust between the donor and the recipient organization that it is both an efficient and effective steward of all contributed funds. By analogy, our role is similar to that of an investment firm; we receive voluntary "investment funds" (donations) from investors (contributors) who wish to have those pooled dollars leveraged in ways which maximize

returns (ROI). In voluntary health agencies, a key difference being that ROI for the donor is measured in lives saved or services rendered to others, rather than a profit in dollars back to the investor.

Like other major voluntary health agencies (VHA), Society leadership is diligent in maintaining high levels of compliance with recognized industry standards set by independent consumer groups such as the Better Business Bureau (BBB), the National Charities Information Bureau (NCIB), and the Financial Accounting Standards Board (FASB). Of course, a fundamental ethical responsibility compels non-profit management to ensure that funds are raised efficiently, accounted for properly, and expended on purposes for which they were raised.

While this responsibility is both appropriate and one of the most fundamental concerns of the public in general and our donors in particular, the establishment of stringent accountability is facilitated by existence of the aforementioned "watch dog" groups. As long as the individual VHA has proper governing policies and operating procedures in place, compliance with industry standards can be virtually assured on an ongoing basis. In other words, financial policies can direct an organization to keep operational costs low and fundraising expenditures within accepted limits. However, the more difficult ethical dilemma arises in decisions that must be made regarding which services and programs to support, and how research funds are allocated.

Since the American Cancer Society is the only truly community-based voluntary health agency fighting cancer nationwide, ACS has an awesome responsibility to deliver as much state-of-the-art cancer control as possible. Besides hospitals and certain health care providers, in most communities, the Society is the only source of cancer control programming from the independent sector (non-government not-for-profit). If those who develop cancer are not receiving state-of-the-art care and are therefore dying needlessly, then the Society has an inherent ethical responsibility to: 1) garner as many resources as feasible, and distribute them in ways proven most effective in saving lives

and reducing human suffering; and, 2) build on the legacy of the past, to ensure our viability in the future, since cancer is a problem that will not likely be solved quickly.

Charles A. Anderson (1975), former president of Stanford Research Institute, stated, "Unless we continually keep meeting the twin tests of responsiveness and relevancy we will (and should) cease to exist." In response to financial pressures, a global trend is forcing not-for-profits to develop more efficient operations and to pay more attention to consumer demands (Davis, 1992). This move establishes a dual purpose for national voluntary health agencies such as the American Cancer Society to: a) invest donations in ways that meet the expectations of the public; and b) operate the organization as a business that will need to exist for some indeterminate but substantial period of time into the future.

Being responsive to our publics and to growing competition in the charity marketplace renders our organizations vulnerable to making political, rather than principled, decisions. If we were to shift resources to areas that might be contemporarily popular, or which promote increased donations in the short-term, without due regard to established science, corporate priorities and values, we could unwittingly compromise our overall mission and record of sound stewardship.

In the arena of "operational ethics," none is more troubling to VHAs or to the public than issues surrounding fundraising. Our reason to exist is to solve a major human problem. We could do an extraordinary job delivering needed services, yet be out of business next year, if the gathering of resources for the future is regarded as a secondary responsibility. Large national-level institutions are increasingly suspect in this age of focus on the local community. Local identity and authority can be contrasted with the reality as noted by Feigenbaum (1987, p.251) that there are "economies of scale in fundraising" in larger institutions.

The extent to which we tie delivery of programs with donations is an ongoing dilemma. For instance, should the

names of patients we have served be added to our solicitation file? When the Society joins local community efforts to support the implementation of comprehensive school health education, and provide state-of-the-art materials free to teachers and schools, can we expect to receive credit for putting our resources behind that effort? Will we be able to ask the school to "pass the blanket" at half-time of a ball game? Or, can we ask the same schools we help to allow their employees to designate the American Cancer Society when they participate in the community United Way Campaign?

Tremendous growth in the number of non-profit organizations has greatly increased demands upon individual and institutional donors. Feigenbaum (1987, p.246) demonstrates that "increased competition causes a greater portion of the discretionary margin to be spent on competitive rather than expense preference activities." Leaders of non-profit institutions must be ever vigilant in applying the maximum amount of funds toward the provision of quality programs and services, while maintaining an appropriate level of fund-raising to assure future development and a sustainable income stream.

Issues of infrastructure investment also manifest themselves in expenditures for "bricks and mortar." Should we purchase buildings and equipment or lease or rent? Critics of the non-profit sector maintain that charities should make minimal purchase decisions of this type. They maintain that maximum available funds should go into programming. Yet, if cancer is a problem requiring long-term commitment and effort, does it not make fiduciary sense to retain control of assets rather than lose them through monthly lease payments. In many cases, purchase decisions are more economic and contribute to the overall fiscal viability of an organization. On an immediate basis however, in some cases fewer resources would be required if we paid rent, freeing dollars for program purposes. Balancing these competing virtues must be done on an ongoing basis by the governing bodies, since the board of directors is the best and closest link to the community being served.

Likewise, concerns are raised regarding professional staff salaries as a major area of expenditure in VHAs. The issue being, since we are a volunteer organization and classified as a charity, money spent on salaries should be kept to a minimum. This well intentioned notion can ignore the need for professional expertise. Simply put, running a major corporation and its various divisions and departments, and attaining measurable people-benefit outcomes in the reduction of morbidity and mortality, necessitates competing for and retaining talented and credentialed professional staff.

Likewise, staff can leverage their skills many times over through the involvement of committed volunteers from all walks of life. For example, an estimated 450 volunteers exist for each paid staff person in the American Cancer Society. The scale of activity, and range of expertise required to implement a cancer control program in every community is delivered at relatively low cost compared to the value of services provided. If these services were to be paid for from any other sector, private or governmental, the costs would be enormous. Nevertheless, boards and their staff managers must constantly weigh the productivity of staff against the salary expense.

ETHICAL ISSUES IN PROGRAMMING

About half of all Americans admit to being frightened just in hearing the word "cancer". While the American Cancer Society has a responsibility to be an unbiased source of information, it must be diligent in avoiding exploitation of that fear, either for our organizational advantage or as a method to achieve a perceived "good end." As R. S. Downie (Ethics In Health Education, ed. Doxiadis, 1990, p.12) observed, "Moralizing is not educating."

The goal of the American Cancer Society in the educational arena is similar to that articulated by Campbell (Ethics In Health Education, ed. Doxiadis, 1990, p.20) as one which "...encomp-

passes both avoidance of disease and development of positive health and which stresses a communal as well as a personal dimension...." The broad range of educational strategies required to address what is both a societal and individual problem is inherently value-laden. How far should we go in stating our case strongly and persuasively without causing undue anxiety or being coercive or judgmental? This ethical dilemma is extremely important and demands careful thought and sound judgment.

For instance, babies of mothers who smoke are at higher risk of sudden infant death syndrome. One of the most tragic experiences in this life, producing long-term trauma and related guilt, comes with the loss of a child. How far should we go in our interest to make sure the public knows just how deleterious the effects of tobacco are? Do we not increase human misery by making people feel responsible for someone else's death, especially the death of their own child?

It is easily said that the case should be stated as strongly as possible to gain attention and to motivate people in a positive direction, but not to go so far as to traumatize people or to make them feel inappropriately guilt-ridden. Knowing where that fine line exists is often vexing. If information is held back, we run the risk of violating the ethical rule proscribing the purposeful withholding of life-saving information. Tobacco companies are routinely and appropriately condemned for just such behavior.

As Riis (Ethics in Health Education, ed. Doxiadis, 1990, p.181) points out, health education programs must educate the individual directly on a person-to-person level and indirectly using the approach of mass informational campaigns intended to change societal behavior as a whole. Balancing resources between these two realms presents a continuing challenge to VHA leadership. Traditionally, programs conducted by the Society at the local level have focused on direct, one-to-one intervention strategies such as conducting quit smoking clinics for a small group of current smokers. Volunteers who conduct such programs gain great personal satisfaction from seeing an

immediate beneficial result from their work. Therefore, strong internal pressure exists to continue to provide resources to support smoking cessation clinics. However, a study of ACS quit smoking programs by Lieberman Research (ACS, 1981) shows that, depending on format, the number of participants remaining as non-smokers after six months ranges between 10% and 27%.

This program method of smoker-by-smoker intervention can be contrasted with a recent nationwide campaign to significantly increase taxes on tobacco being coordinated by American Cancer Society volunteers. According to Smoking and Health in America (DHHS, 1982, P.131), if the price of cigarettes was to increase by $2 per pack, the long-term preventive effect, by keeping younger people from starting smoking, would potentially result in one million additional lives saved. To save an equivalent number of lives would require the Society to fund and effectively conduct over 400,000 smoking cessation clinics! Our organization has neither enough people nor money to deliver that many interventions.

Culture and tradition exert a heightened influence on decision-making in a non-profit organization. It is part of the heritage of voluntarism that is passed from one volunteer group to the next. Momentum within the American Cancer Society supports maintaining smoking cessation clinics as a regular program offering. Assume that the Society would totally commit its resources to saving those million lives by conducting 400,000 clinics. We would spend vast amounts of energy and scarce resources getting people to quit, when we could be just as effective by getting the tax increased. We would achieve the same result but in the more difficult and less efficient way.

Increasingly, non-profits must be run as businesses, while retaining their uniqueness as a volunteer, citizen-based enterprise. We must ask our board members to bring the very same skills and insights they use in their professional and personal lives to help us use our finite resources in the most cost effective way.

As a VHA, we must discover our own distinct competencies and balance those with our tradition and culture of striving to meet all unmet needs related to our mission.

As Pattison and Player point out, (Ethics In Health Education, ed. Doxiadis, 1990, p.68), non-profit voluntary health agencies sit in the middle between the conflicting values, needs, interests, and dreams of people and groups who all compete for attention and control. Our only advantage is that we can be an independent voice with a total commitment to making decisions based on the best science available and the needs and rights of the individual. And, as stated by Campbell (Ethics In Health Education, ed. Doxiadis, 1990, p.23), we must "...totally eschew any method which hides the intention of the educator, distorts the evidence in order to persuade, or uses any other wholly manipuative methods."

ETHICAL ISSUES IN RESEARCH

The research strategy of the American Cancer Society was established in 1945 and the approach has remained relatively unchanged. Twenty-five percent of gross donations to the Society nationwide are pooled, representing 62.5% of all money received by the National Headquarters. Independent experts in 14 research areas review investigator-initiated proposals. Funding is granted based upon peer-review scores beginning with the highest rated in descending order until all funds are expended. This year, for example, the peer-review process, which served as the model for the process used by the National Institutes of Health, resulted in $100 million of cancer research projects being supported at reputable institutions throughout the country.

The Society's research program has been called internally, "the jewel in the crown of our organization." The quality of the program is benchmarked by the fact that we have provided funding to 27 investigators who later in their careers were awarded the Nobel Prize. Yet, increasingly compelling and

ethical reasons require us to rethink our entire research funding allocation approach.

The large sums of money available from both private and public sources for cancer research have a cascading effect. The funds attract researchers from many different disciplines and influence students to pursue careers in cancer research as was found by O'Brecht and Doutriaux (1992, p.298) in a study on the impact of non-profits on Canadian research funding. "Health research ensures that an area can attract excellent tertiary care specialists which in turn makes the area more attractive for specialists. Health research ensures that medical schools remain at the forefront of medical knowledge and are thus able to train first class health care professionals. Health research provides an environment in which the significance of new developments in medicine can be readily appreciated and acted upon. Finally health research attracts health research funding which attracts excellent researchers who in turn attract research resources and so on."

When aggregated, funds for cancer research from the federal government, the private sector, and the not-for-profit sector now exceeds $4 billion annually! Thus, in effect, our organization's original intent to stimulate a major cancer research initiative in the U. S. has been a tremendous success. Moreover, we remain the single largest source of cancer research funding from the independent sector. Yet, unlike the situation in 1945, our funds represent but a small percentage of the total amount now available for cancer research. Setting aside the question of what results have come from the Society's research investment to date, one needs to ask, what is our proper and best role in the overall cancer research effort today? If the National Cancer Institute and others are doing an appropriate job supporting investigator-initiated projects, should we not do less of the same and use our finite resources in other ways that could fill voids, and thereby have an even greater impact on cancer incidence, morbidity, and mortality?

Any decision to move toward more targeted, program-oriented research and away from project by project research is also constrained by the tradition and culture of the organization. The research community, the peer-review panels, and members of our board of directors are strong supporters of the investigator-initiated approach to research. However, are we ethically bound to identify a new and different strategy if we have the opportunity to make a major contribution to cancer control by using part of our research funds in a different and unique way?

A ready example of this dilemma involves the area of mammography screening for breast cancer. Clinical studies have shown that screening women over age 50 produces increased lives saved and is an economic expenditure of finite health care dollars. However, the NCI has decided to drop its earlier and long-standing recommendation that women between ages 40 and 50 have regular mammograms, due to the lack of mortality reduction and the high cost compared to the projected benefit (Mettlin, 1994, p.254). Simply stated, no definitive clinical trials have demonstrated what we believe empirically, that many more lives could be saved by conducting such routine screenings among women aged 40-50. Conclusive results from a carefully done study in this area could have a worldwide impact. In this era of cost containment which drives both medical procedures and research funding, needless lives may be lost because we have not yet proven the value of early mammography screening. Therefore, should the American Cancer Society redirect a significant portion of our available research funds to this unanswered question, or to some other such cancer control question which has not been properly studied by either the government or the private sector?

Another concern in these "bottom line" times is the issue of what results are actually achieved for our investments. We must ensure not only that our research is not duplicative, but that it has been efficiently and effectively conducted. Wise and Agranoff (1991, p.4) state that using the project by project approach, also makes it more difficult to identify trends or conflicts

between various studies. Does use of external researchers, as is the case with Society research funding, shift responsibility for technical efficiency and the use of ethical methods to the grant receiving institution?

Measures of technical efficiency such as cost benefit and control and delivery of results in a timely and reasonable manner are rarely considered. For instance, an evaluation of schedule performance by Wise and Agranoff (1991, p.5) indicated that research studies are typically more than a year overdue, and that many arrive two years after they were promised.

Certainly, we can require that the recipient institution have clear policies that protect both human and animal participants to ensure that potential benefits outweigh the inherent risks. Confidentiality and respect for individual rights are fundamental requirements of an ethical research program. Our responsibility is to make certain that these concerns receive more than just lip service and that systems are in place to monitor and document compliance with accepted standards, as well as ensure that results obtained are accurate and timely.

How far should the grantor go to require scientific integrity and efficiency from the researchers working for the recipient institution? The National Institutes of Health (NIH) requires grantees to have training programs which among other things "...teach responsible conduct of research [that] include: avoidance of experimental bias; the importance and proper use of statistics; the reporting of conflicts of interest;...appropriate use of grant funds; proposal review and use of data; data, intellectual, and property rights;...the importance of quality versus quantity in research productivity;... and the actual institutional and federal misconduct policies and procedures" (Gilbert, 1992).

MECHANISMS AND SYSTEMS TO DEAL WITH ETHICAL ISSUES

It is incumbent upon all charitable agencies to have established procedures to deal with ethical issues within their organi-

zation. Over time, the American Cancer Society has developed an infrastructure and system which assures that we continuously monitor policy development and implementation and daily standard operating procedures. Following are six examples of specific codes and procedures in an overall system designed to help us continuously assess all of our behaviors and actions. The ACS documents are available from the author at no cost upon request.

Values

Recently, the American Cancer Society developed a set of organizational values which define how we intend to conduct all of our activities and day-to-day interactions with each other and with our external colleagues.

These values are the basic beliefs and principles that guide our behaviors as a group of individuals who work together in pursuit of a common goal, the conquest of cancer. We are committed to providing leadership and quality service in support of the mission of the American Cancer Society.

- **Respect for the Individual** - To achieve a productive, collegial, and supportive working environment that enables everyone to fully contribute his or her skills and talents.
- **Responsibility and Accountability** - To achieve a working environment in which everyone is motivated and empowered to deliver high-quality programs.
- **Teamwork** - To optimize use of our diverse skills, knowledge, and expertise.
- **Stewardship** - To earn and maintain public trust.

Conflict of Interest

Each volunteer and each staff person is expected to keep a Conflict of Interest form on file in our legal counsel's office. All forms are reviewed annually by our independent Audit Committee. Additionally, the Society's conflict of interest policy is reviewed at the beginning of each standing committee meeting. It is reprinted in every agenda book at every meeting.

Audit Committee

Our bylaws provide for an Audit Committee which, at least annually, conducts a review of all policies and actions taken by our Board and staff. This audit is done independently of our external auditors (The Arthur Andersen Company). Each year the Audit Committee meets in executive session with the external auditors, as a double check to ensure no problems exist that have been overlooked. Otherwise, they work independently. The bylaws implicitly state that the Chairman of the Audit Committee *cannot* be an officer or member of our Executive Committee to ensure an "arms length" distance between the top leaders and decision makers and the chair of the Audit Committee.

Criteria for Priorities

Since we must constantly review how we expend our resources–both human and financial–the board of directors approved a set of criteria as a standard to be used in establishing new, or changing existing, cancer control priorities. The intent is to maximize the life-saving potential of our activities at all levels of the society nationwide. The criteria are:

1. Potential overall impact on cancer;
2. Effectiveness of existing methods;
3. Ability of the American Cancer Society to implement;
4. Proportion that can be accomplished by the American Cancer Society rather than other cancer control agencies;
5. Level of resources required; and
6. Impact of the activity on the image of the American Cancer Society

Reference Forums

Our bylaws provide for reference forums conducted immediately prior to all board of directors meetings. These forums review all proposed policy issues to come before the board of directors for discussion and or action. In addition to voting board members, *all* interested volunteers and staff are invited to attend and participate. These reference forums also are open to the public. The chair of the reference forum, who is always a

volunteer, reports a synopsis of the open discussion to the Board of Directors before any vote on the issue in question is taken.

360 degree Review

The Society's Human Resources Department is currently working with our Total Quality Performance Task Group and the Office of the Chief Staff Officer to design and institute "360-degree" annual reviews of all our employees. This process will provide each staff person, including our senior-most staff and supervisors, with periodic and systematic feedback on his or her performance. All those who have regular contact with that individual, including subordinates, colleagues, and supervisors will be provided an opportunity to give constructive suggestions and feedback on that individual's performance.

CONCLUSION

In these competitive, accountable, and contentious times, voluntary health agencies will be held to ever higher standards of performance. On balance, this is as it should be. Ethical concerns surrounding such critical issues as public trust, institutional responsibility, organizational responsiveness, and overall accountability must assume the highest place on our collective leadership agenda.

By establishing policies that include statements on ethical behavior and proper conduct, boards can set parameters for operational decision-making that assure the highest level of stewardship of public contributions. Even more important, by forcing ourselves to state *a priori* what results we wish to achieve from our education, service, and research programs, we can better guide the allocation of our resources and the execution of our specific cancer control interventions.

In our own case, the American Cancer Society realizes that great care must be taken in all of our decisions because the qual-

ity of those decisions will indirectly affect the number of people who will be touched by cancer.

Over the past few years, the American Cancer Society has redefined its Mission, set strategic directions, established a limited number of cancer control priorities and identified six specific cancer control interventions to be implemented in all 3,400 local community chapters. In addition, our board of directors has adopted a set of measurable outcomes to be achieved by the end of this decade. This iterative process was guided by pre-established criteria regarding appropriateness, efficiency, and effectiveness. We have instituted a nationwide cancer control program -- called Mission 2000 -- which will help us reach the highest level of ethical performance, because we will be using our finite resources in pre-tested ways which are known to be state-of-the-art in reducing cancer incidence, morbidity, and mortality. This ultimate aim is the very reason we exist.

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CHAPTER 7

THE SCHOOL PERSPECTIVE

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Laura Kann, Ph.D.

School-based efforts to improve the health status of youth rank high on the Nation's agenda for improving health and education (U.S. Department of Health and Human Services [DHHS], 1990; National Education Goals Panel, 1993). Recent reports on adolescent health problems and school programs designed to address those problems reflect this increasing interest (Annie E. Casey Foundation, 1994; Collins et al., 1993; DHHS, 1994; DHHS, 1993; Kann, Kolbe, & Collins, 1993; U.S. Congress, 1991). However, the increasing number of health-related data collection activities currently taking place in schools raises questions about the appropriate use of instructional time to collect such data and about the usefulness of such data in improving the health of youth.

Investigators can improve the quality and usefulness of research (and consequently reduce the growing reluctance of educators, parents, and students to participate in data collection activities) by carefully addressing three concerns: the nature of the school setting, study quality, and benefits to the target population. This paper summarizes common pitfalls and provides practical suggestions to improve the quality of school-based data collection in relation to each concern.

THE NATURE OF THE SCHOOL SETTING

Schools represent a setting in which to collect important health-related information about students and staff and about school health environments, policies, and programs. However, the priority of schools is education, not data collection. Thus, schools may not be receptive to data collection that detracts from instructional time. School officials receive extensive requests for data collection. Investigators should appreciate the range of demands and requests placed on school staff and students.

A variety of gatekeepers control access to schools. Education agencies often establish clearance processes for obtaining approval from state education agency officials and school boards, other state government officials, district superintendents, institutional review boards, school principals, teachers, parents, and students. Failure to gain approval and assistance from designated groups may delay data collection, result in low participation rates, and jeopardize future opportunities for school-based studies. To facilitate clearance, investigators should determine the levels and sequence of approvals needed, prepare relevant materials for review, set a realistic schedule, and closely monitor the clearance process to completion.

State and local education agencies sometimes require signed or "active" parental permission forms for students to participate in data collection. Unfortunately, it is often difficult to ensure the timely return of permission forms, even when parents approve. To increase participation rates, investigators may want to offer incentives (e.g., pizza, extra credit) that are attractive to students and appropriate in the school setting to increase the percentage of returned forms. When incentives are used, students should be eligible for the incentive regardless of whether parental permission is granted. Many education agencies allow the use of "passive" parental consent, which requires parents to respond only when they deny permission. Regardless of the type

of consent used, advance parental notification of data collection activities may contribute to support for future studies.

When planning the study, investigators should strive to keep data collection activities to a minimum and focus on the highest priority health-related issues. School-wide disruption can be minimized by sampling classes of students rather than individual students and by scheduling data collection to be completed within a single class period.

Earning participant trust is paramount in collecting data about school programs and staff. School officials and teachers often bear the brunt of public criticism of schools and, understandably, want to present their programs in the most positive light. State mandates for policy or instruction further complicate attempts to obtain a true picture of program implementation. Investigators can engender trust by clarifying the purposes of the data collection, by ensuring confidentiality of the data and the identity of the school and respondents, and by respecting the limited discretionary time of school staff.

STUDY QUALITY

Careful attention to methodological issues such as developing instruments, selecting participants, keeping records, and developing a precise data collection protocol will increase the likelihood that results can be generalized to the population of interest.

Instrumentation. Obviously, children within the same grade or classroom vary in age, gender, race/ethnicity, ability, interest, and maturity. When designing questionnaires, investigators must consider these factors with variations in students' reading levels and attention spans. To adequately address diversity and developmental issues, particular attention should be given to questionnaire wording, clarity of directions, response options, overall complexity (i.e., skip patterns, multiple-part questions, the use of grids), length, and time limitations (i.e., length of class periods).

Participant input during questionnaire development is critical. Focus groups for a middle school Youth Risk Behavior Survey (CDC, 1994) questionnaire revealed that younger students thought "powder" in a drug question meant "face powder" and could answer questions about the type of milk they drank only by the color of the carton. Investigators should be alert to any negative or accusatory wording in survey questions that may discourage truthful response. Questions that ask students to report on sensitive or illegal activities in their families, such as patterns of alcohol consumption, illicit drug use, or sexual abuse, may be too intrusive for valid data collection in a school setting.

Further, students often do not know the answers to questions about parental income or educational status. Students also may not understand questions about race or ethnicity or know how to classify themselves according to the categories provided. When needed, translations into other languages should be conducted locally. Ideally, one individual should translate questionnaires to the specified language, and another individual should translate back to the original language to help verify that the original meaning remains unchanged.

Participant selection. A variety of participant selection strategies are used in school settings. Investigators should determine whether a census is appropriate in terms of cost and efficiency before deciding to include all students of interest. When sampling is used, investigators should employ sampling methods that allow an equal chance of selection for all participants rather than relying on volunteers. The use of non-required classes such as physical education or health education may bias the results in unknown ways.

Record keeping. Careful record keeping is essential to allow accurate calculation of response rates (CDC, 1994). Investigators should track the number and characteristics of eligible participants compared to those students or staff who actually take part in the data collection. These records can be used to assist in the calculation of sampling weights, when appropriate.

Calculation of response rates must take into account the participation rates of both schools and students. Specifically, when students are sampled within schools, the response rate for schools and students must be multiplied to obtain the overall response rate. For example, if 80% of selected schools participate and 70% of selected students in those schools participate, the overall response rate is 56%. The student response rate alone is an inadequate description of the response rate. The use of replacement schools will result in larger sample sizes, but will not increase response rates (Yates, 1981).

Investigators must describe clearly the population to whom results apply. For example, results from school-based student surveys describe in-school populations only and provide no basis for generalization about youth of the same age who do not attend school. When limited numbers of classrooms or students in a given school are selected as part of a state-wide sample, they may not represent that school. In such cases, only state-wide results (rather than school-level results) should be reported. Indeed, school-level results from a limited number of students may allow the identification of individual students or lead to unwarranted conclusions. In addition, reporting results for small subgroups of students may result in misinterpretation of race, gender, or age differences.

Data collection protocol. The data collection protocol and environment are critical. Attempting to collect sensitive information from students in lunchrooms or auditoriums may result in misbehavior or an atmosphere in which students do not take data collection seriously. The selection of data collectors also may influence responses. For example, using teachers as data collectors may result in inconsistent survey administration or make students nervous that their teacher will see their answers. Using data collectors trained specifically for a particular data collection activity is preferable.

Investigators have an important responsibility to explain the intended uses of the data they plan to collect. Unless they are

reassured otherwise, students may assume that a survey about their health behaviors is a test that could affect their grades. Students also need to know whether their answers will be reported to their schools and in what form. Investigators must make certain that students are not singled out, embarrassed, or otherwise negatively influenced by nonparticipation and that confidentiality or anonymity are protected as promised. The option to decline participation in any part of the data collection activity must be described clearly. Because some students may pressure others to reveal their answers, investigators should explain that the information students provide is confidential.

BENEFITING THE TARGET POPULATION

The question of whether the results will be used to improve school programs and to benefit students and staff should be at the heart of all school-based data collection activities. If not, the activity may not be justifiable in terms of lost instructional time and disrupted school schedules. In addition, investigators should consider the cost and efficiency of data collection in relation to the benefit to participants. For example, conducting a state census of high school students rather than selecting a scientifically representative sample may unnecessarily use resources for data collection that could be better spent on health education or health services.

School officials frequently raise concerns not only about the number of surveys they are asked to complete, but the duplication of data collection efforts. Investigators should use existing data whenever possible rather than repeatedly collecting similar information. Current examples of duplication include multiple surveys within states and districts about student tobacco, alcohol, and other drug use and asking schools for information routinely reported to the state education agency, such as enrollment figures. Investigators can collaborate with education agencies to promote the administration of one comprehensive student health

questionnaire from which many groups may benefit, rather than using overlapping surveys that require multiple administrations.

Investigators' responsibilities in school settings extend beyond data collection. When students are involved in research activities, appropriate follow-up should be provided. For example, health-related hot-line telephone numbers or the names of individuals who can provide assistance (e.g., school nurses or counselors) can be provided to students completing surveys of health behaviors.

Investigators should identify from the outset how and when respondents will benefit from participating in data collection activities. At a minimum, participants should receive a summary of the findings in a timely manner and usable format. Investigators should translate their findings into text and graphics that participants will understand. For example, some state education agencies that administer the Youth Risk Behavior Survey (CDC, 1994) mail newspaper editions of results to schools across their state (Nebraska Department of Education, 1993). Teachers use the newspapers in class discussions about behaviors that put students at risk for major health problems. The newspaper also is informative for parents, school-board members, legislators, and other decision-makers.

In addition to being responsive to participants, investigators should seek to disseminate their findings widely through methods that yield the greatest positive impact on improving the quality of school health programs throughout the Nation. Journal articles, reports, executive summaries, newsletters, and presentations to health and education professionals, parents, community members, and state and local decision makers are all important ways of disseminating results.

CONCLUSION

Important information for improving school health programs and student health outcomes may be obtained through school-based data collection. Careful attention to the require-

ments of the school setting, study quality, and benefit to participants can improve data collection and, ultimately, the health status of our Nation's youth.

School-based research provides a powerful opportunity and solemn responsibility to represent the needs and views of students and staff, who often lack the forum to be heard beyond their respective schools. However, these same groups too often are viewed as captive audiences who represent a convenient source of data. Investigators must examine their own motivation for conducting school-based research, and embark on such studies only when the research question is of central importance and the methods are of the highest scientific caliber.

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CHAPTER 8

THE WORKSITE PERSPECTIVE

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Formalization of health promotion programming in the workplace occurred in the late 1970's to early 1980's. Prior to this time, employee or industrial recreation programs and occupational health programs existed in many work settings. In some cases these programs provided the foundation for emerging worksite health promotion activities. Employee recreation programs provided for the socialization needs of employees. Occupational medicine professionals attended to health protection and safety or injury prevention needs.

During the late 1970's extensive scientific evidence emerged that associated lifestyle behavior with the most common forms of mortality. Lack of exercise, smoking, poor diet, elevated cholesterol and hypertension were linked directly to cardiovascular disease, stroke, and cancer (USDHHS, 1991; Fielding, 1994). A number of publications encouraged business and industry to get involved in disease prevention and health promotion to protect the lives of valuable employees, and to contain ever-increasing costs of providing health care benefits (Lovato, Green, & Stainbrook, 1994). Current employment data indicate that over 60% of the U.S. adult population is employed, making the worksite an important delivery point for health education programs (Himendinger et al., 1990; United States Department of Labor, 1992).

In the early 1980's only about five percent of employers reported offering health fitness or health promotion programs to employees (Harris, 1994b). In the 1985 national survey of

worksite health promotion activities, 66% of responding businesses reported offering at least one type of health promotion activity. The 1992 survey reported an increase to 85% (USDHHS, 1992). Respondents to the 1992 survey indicated the most important factor in a company's decision to offer health promotion programs was to improve employee health (41%), and the next most important factor was to decrease health insurance costs (27%). When questioned about whether any type of formal evaluation was conducted, only 12% responded in the affirmative. The rate varied with size of company, with larger companies more likely to conduct formal evaluations. Type of business also was a factor; 19% of those conducting formal evaluations were transportation and public utility companies.

BASIC DILEMMAS IN WORKSITE RESEARCH

Some authors suggest academicians are more concerned about demonstrating effectiveness of worksite health promotion programs than are companies that offer the programs. According to Green and Cargo (1994) "...the published academic literature does not reflect the mood and corresponding developments in the published and unpublished literature written for business professionals" (p. 512). The business literature is more optimistic, whereas the academic literature, with its requirement for scientific rigor and caution about the application of results, is much more pessimistic. Results from the 1992 survey suggest business is not highly concerned about evaluating health promotion programs. This finding leaves a basic question for those interested in conducting research into program effectiveness: How do we convince business of the need to evaluate the effectiveness of these programs, and is it ethical to try?

A frequent criticism of worksite research revolves around the need for more rigor, especially with regard to control groups. Most worksite studies use comparison groups of convenience that often include non-participants who self-select by choosing not to participate. This practice produces a comparison group by

default, rather than by design. Most businesses are unwilling to deny participation for some employees while allowing others to participate. The business feels this practice is not ethical and in some cases may violate collective bargaining agreements (Abrams et al., 1994; Heimendinger et al., 1990). Does the fact that we are talking about denying access to health promotion program opportunities rather than access to a potentially lifesaving drug make the ethical dilemma any less significant?

"Real world" research inevitably exposes the scientist to special interests. At the worksite, special interests usually include employees whose personal data you are tracking on one side and the management for whom they work on the other. Additional players in the scenario may include unions, middle level management, and occupational health and safety. This situation presents the dilemma of conflicting loyalties (Allegrante & Slone, 1986; Roman & Blum, 1987). The foundation of the conflicting loyalties dilemma involves confidentiality and trust. How does the scientist establish sufficient trust to ensure cooperation to conduct the research?

What to Evaluate

Is it ethical to try and convince business to evaluate the effectiveness of worksite health promotion programs, whether they want to or not? Assuming that the 1992 national survey of worksite health promotion activities is valid, little interest exists with business to formalize evaluation to determine effectiveness of their health promotion activities. Respondents indicated their companies offer the programs because of a concern for employee health and well being, suggesting that the primary concern may not be what the programs are doing for the corporate bottom line. Harris (1994a), however, suggested the importance of demonstrating health care cost containment may be more relevant to companies considering starting new programs than to companies with programs in place.

The key element in this discussion may be that companies committed to providing programs for their employees have little concern about program effectiveness as measured by cost contain-

ment or insurance premiums. These organizations probably could demonstrate program effectiveness, because a healthy company is a primary ingredient for successful health promotion programs (Allen & Bellingham, 1994).

For example, the Coca Cola company in Atlanta, Georgia, has operated a successful employee wellness program for several years. Anecdotal evidence suggests their health promotion programs have been successful in contributing to health care cost containment. When questioned as to why they have not reported their findings, the response was that Coca Cola provides the program because they are concerned about their employee's health. In effect, they know it works, the employees are happy, and the company is concerned that the employees not get the wrong message. Their program was not initiated as a cost containment strategy, and Coca Cola does not want the program perceived in that manner.

The real ethical dilemma becomes what will be evaluated and who decides? If business and industry are interested in employee health, then the ethical focus of worksite research involves determining the most effective method to influence employee health and identifying what it takes to ensure the work environment is structured to support the employee's practice of health enhancing behavior. Current worksite research takes this approach by seeking to identify elements in the corporate culture that support health, the rationale being that these environmental factors influence all workers at the worksite. Shifting the focus away from behavior of the individual employee also re-establishes the concept of a shared responsibility for employee health and well being (Abrams et al., 1994; Katz & Showstack, 1990).

Rigor in Evaluation

One of the most consistent criticisms of worksite health promotion program evaluation relates to lack of randomization in assignment to intervention groups (Conrad, Conrad, & Walcott-McQuigg, 1991; Katz & Showstack, 1990; Jacobs, Jeffery, & Hannan, 1988; Abrams et al., 1994). Worksite health promotion

program evaluations often use samples of convenience, comparing persons who agree to participate in worksite programs with those who choose not to participate. The primary criticism contends it is likely the study subjects may have been healthier already.

To address this criticism, evaluations should randomly assign participants into experimental and control groups. As with any controlled experimental approach, one must assess the ethics of denying a group the opportunity to participate (Green, 1986; Katz & Showstack, 1986). In the case of worksite programs, one also must determine the legality of denying participation or making random assignment to intervention groups. Legality often relates directly to collective bargaining agreements, and whether offering programs constitutes an alteration in work conditions. Though the program itself may be seen as an improvement in work conditions, any new employee activities may have to be formally negotiated and subsequently included in the collective bargaining agreement.

The most ethical and effective way to address the question of scientific rigor involves using a design that includes another worksite as the comparison site. Using another worksite allows comparison of both individual data and organizational data to assess changes in employees and the corporate culture (Abrams et al., 1994; Heimendinger et al., 1990; Katz & Showstack, 1986). It is unlikely that the worksite agreeing to participate as the comparison site will continue to participate indefinitely without some incentive. An agreement to assist with development of future programs, or a delayed start-up, may keep the comparison worksite interested and involved in the research project.

The question of scientific rigor may never be answered to complete satisfaction for those accustomed to conducting clinical trials. However, true experimental design is not the most appropriate methodology for health education research at the worksite. Investigators first need to carefully design studies that fit the needs of this unique field research setting. Results then can be carefully reported citing the methodological limitations to

inform readers that the limitations are fully understood, and were considered in the design process (Schaeffer, Snelling, Stevenson, & Karch, 1994).

Conflicting Loyalties

Conflicting loyalties present a particularly troublesome area in worksite research. By the nature of how they are conceived, worksite health promotion programs may place the health professional in a tenuous position. Employees often are concerned about how information regarding their health status will be used. Can results from a health risk appraisal (HRA) be used to identify potential health risks that could be costly to the company? Could this information be manipulated to identify high-risk employees to be laid off? If the employer funds the research effort, employees may question the motives of the employer. If the employees perceive that the health promotion program is being provided as a way to avoid addressing potential hazards in the work environment, they may be less likely to participate.

Many of the dilemmas related to conflicting loyalties revolve around confidentiality and trust. If an inherent lack of trust exists within the worksite between the employees and employer, that lack of trust will carry over into any activity perceived as sponsored by management.

Unionization also may play a role in this area. "Organized labor has not had a high profile in health promotion, but it is in a strong position to either foster or hamper the development of programs" (Lovato et al., 1994, p.23). Historically, labor has been instrumental in facilitating change in working conditions. However, the heavy emphasis on individual behavior associated with worksite health promotion programs and evaluation causes concern to labor because of an implicit negation of responsibility for hazards in the work environment (Lovato et al., 1994). If the union is supportive, its members can be very effective in helping to combat the perception that the research effort is part of a hidden agenda by the company.

An inherent mistrust of the research team also may develop if no previous research has been conducted at the worksite. Involving employees from all levels of the worksite can help to overcome this barrier. Involvement provides a network of support for employee participation. A solid core of employees working with the research team to encourage participation, and to assure credibility of the research, will enhance response rates and subsequent program participation. Yet, an element of risk exists in using employees to encourage participation in the research investigation. If employees who agree to assist are not trusted by the other employees, they will be ineffective in facilitating cooperation in the study.

CONCLUSION

The most common ethical dilemmas associated with worksite health promotion program evaluation include who determines what will be evaluated, how to address scientific rigor, and conflicting loyalties. There are others, but these factors seem critical to designing future studies. It will be important for academicians to ascertain from those who provide programs for employees what they would like to be the focus of evaluation. The emerging focus on corporate culture, together with individual behavior, will drive a different research design that may help future researchers obtain better answers to what is needed to help people maintain healthy behaviors.

The health education professional seeking to conduct research in this setting will, like health educators in any setting, be confronted with ethical questions. The response to those questions largely will be determined by their personal values that frame the context from which the professional code of ethics is operationalized. If the professionals have integrity and perceive themselves as responsible for their actions, knowing how to respond in an ethical manner will come easily.

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CHAPTER 9

THE PRIVATE SECTOR PERSPECTIVE

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Before considering ethical issues from the private sector perspective, it is helpful to distinguish the private sector from other settings. Health education research and practice occur in educational institutions, clinical facilities, at the worksite, and in the community at large. These activities occur in both "public" and "private" institutions. Public, tax-supported institutions receive at least partial financial support from local, state, or federal governments. Private institutions receive financial support from voluntary contributions or from resources generated through private enterprise. Thus, while all health education activities share common elements, "private sector" institutions differ from public institutions in that they most closely resemble a business or industry.

Private agencies typically lack an underpinning of guaranteed financial support. All costs incurred in private sector activity--salaries, health insurance, retirement, rent, equipment, and the like--must be covered through in-coming revenues. Some private sector agencies strive to make a profit for owners, employees, and or shareholders. Other private entities are non-profit, and either do not make profits on projects or re-invest them in agency missions. Regardless of the profit or non-profit status, all private agencies must avoid operating at a loss. Therein lies both the opportunity and the challenge facing health educators in the private sector: To undertake meaningful work,

complete the work with integrity, and to operate without a loss, or even to generate a reasonable profit after basic operating expenses are covered. This seemingly simple goal proves much more difficult when put into practice.

In conducting scientific inquiry in the private sector, we face many of the same ethical obligations that exist in other settings, such as fully informing participants about the nature of the research, ensuring participation is voluntary and not forced, and protecting participants' anonymity or confidentiality, while at the same time attempting to obtain high rates of participation as well as valid data. However, other issues are of particular relevance in the private sector. This paper addresses three areas in which ethical issues arise in conducting scientific inquiry in the private sector: issues involving whether or not to undertake the research; issues involving conduct of the research; and issues involving reporting of results, particularly results contrary to the interests of an organization.

ISSUES INVOLVING WHETHER OR NOT TO CONDUCT THE RESEARCH

In an ideal world, availability or lack of resources would not exert a strong influence on what we study or how we study it. Rather, the desire to undertake meaningful research that addresses critical social problems and has a positive impact upon society would rank among the most important factors in deciding whether or not to pursue a particular project. Unfortunately, this desire is sometimes secondary to availability of resources. Much of what is pursued or how it is pursued results directly from who has resources and the amount of resources available. Ethical conflicts may arise when the resources, appropriate methodology, and desired outcomes do not coincide.

For example, at ETR we receive frequent calls from practitioners requesting us to evaluate the effectiveness of a curriculum or program. These individuals want to know

whether or not a particular program changes behavior--perhaps the most difficult challenge in social science research. As the conversation proceeds, we discover that they have limited resources, and they face several methodological limitations. This results in a dilemma: Do we encourage these individuals to proceed, though we know it will be difficult if not impossible to conduct a methodologically sound evaluation? Or, do we dissuade them from conducting the research they really want to pursue?

If we offer to undertake the research, we may be forced to use a weak methodological design, which will diminish the quality of the resulting data, and may erroneously indicate the program was not effective when, in fact, the design had insufficient power to detect actual effects. Yet turning down the work or encouraging potential funders to re-think their plans may result in a lost opportunity to pursue subsequent research, as well as a loss of funding to cover staff salaries. When faced with these dilemmas, the temptation arises to accept the situation, express some concerns, and then proceed by collecting lesser quality data, assuming that having some data is better than having no data.

Given the growing concern for accountability and "proven" effectiveness, we believe researchers cannot afford to proceed in this manner. If a study on behavioral impact cannot be designed to allow for a reasonable test of the program under study with sufficient statistical power, then social scientists should probably choose not to conduct it at all. One possible solution to this dilemma involves working with potential clients on collecting formative and process data, such as student reaction data and teacher implementation data, instead of proceeding with a weak study of behavioral impact. If this situation occurs, it is important to make sure the clients are fully aware of the type of data to be collected, and the nature of conclusions that they can draw from the data.

ISSUES INVOLVING CONDUCT OF THE RESEARCH

When conducting scientific inquiry in the private setting, individuals may be required to conduct research on a product or program produced or distributed by their own agencies. This situation clearly creates a potential conflict of interest. For example, one might question the integrity of research on the effects of second-hand smoke that was funded by the tobacco industry. Similarly, it might be suspect for a diet center to conduct its own research on a new weight loss product the agency is distributing. In both these instances, the agencies sponsoring the research have much to gain from positive results, and this need may overshadow the conduct of unbiased research.

It is not inherently unethical to conduct research on a program developed or designed by your own agency. Indeed, many researchers are objective, and many funders provide resources for the development, implementation, and evaluation of a program by the same agency. It would be unethical, however, to design and conduct research in a way that biases the data in favor of the product or program under study. Several examples help illustrate this point. It would be improper, for instance, to systematically assign youth with high levels of risk behavior to a comparison group and youth with lower levels of risk behavior to a treatment group, and then use risk behavior as a programmatic outcome. Similarly, it would be unethical to selectively drop participants from a study in a way that favors the desired outcome, such as dropping youth who are chronic absentees from the treatment group but not excluding these youth from the control group. Further, it would be unacceptable to use a weak design, such as a post test-only design, and then use the data to make sweeping claims about program effectiveness. In any setting, it is critical to acknowledge limitations of the inquiry and how these limitations may affect conclusions drawn from the study.

To avoid ethical issues associated with the conduct of research, some organizations convene Scientific Advisory Panels to oversee the evaluations, or use outside evaluators to minimize potential bias. To illustrate, ETR was involved in the development and evaluation of the Reducing the Risk (RTR) curriculum; ETR also publishes the curriculum. Prior to engaging in the research, a national panel of advisors was formed to monitor the research throughout the project. The panel helped maintain objectivity in the research design and in the analysis and reporting of results. Without such oversight, agencies conducting research on their own products could make decisions consciously or unconsciously that promote the program or product rather than making decisions in the best interest of scientific inquiry.

When conducting inquiry in the private sector, the desire to make a profit or to avoid a loss contributes to other ethical dilemmas as well. For example, to save fiscal resources researchers may be tempted to "cut corners" or expend fewer resources on a particular activity, such as reducing the sample size for a survey or omitting prepaid envelopes in a by-mail survey. These actions may reduce costs, but also may jeopardize the quality of study data. Many social scientists may feel the integrity of the science always must come first, but fiscal realities often tax this assumption. Fiscal pressures are not unique to agencies operating in the private sector. In this setting, however, the institutions' self interest in reducing costs may exert a stronger influence on the nature of the inquiry than the importance of using state-of-the-art methodology.

ISSUES INVOLVING REPORTING OF RESULTS CONTRARY TO THE INTERESTS OF THE ORGANIZATION

Another area where ethical issues often arise, particularly for agencies conducting research on their own products or programs, involves the process of reporting study results. Too often, we assume that only positive findings are worth reporting

(Babbie, 1992). In the social sciences as well as the "hard" sciences, we have an ethical obligation to report negative findings. Knowing what does not work can be just as important as knowing what does work. In some instances, failure to report negative findings is not in full control of the investigators. For example, journal editors and review panels often do not accept articles featuring negative results, including lack of results. In many cases, however, the decision not to release negative findings is made consciously, because the findings conflict with the ideological interests of an agency. This decision clearly represents an ethical conflict.

To illustrate, suppose an agency that specializes in peer education developed a model peer program. Further, suppose the program was evaluated rigorously, and found to be ineffective. In the interest of furthering the agency's ideological goals, and in the interest of seeking additional funding to support similar programs, agency personnel decide to withhold the findings. Clearly, suppressing data in the interest of the program and the agency is not appropriate.

This issue can surface when functioning as an outside evaluator as well. Program staff often "explain" negative findings in defense of their programs. "The study was not completed well; the evaluation did not capture the full effects of the program; the program had many intangible effects that could not be measured." In some instances, reports are placed on a shelf and the programs continue with little or no modification. This type of response leads to another ethical dilemma: Do individuals conducting the inquiry have an obligation to write about and or discuss such findings once data have been delivered to the funder? Or, does the funder have full control over disposition of the data? The issue of data ownership should be anticipated at the outset, and addressed during the initial phases of the project.

A similar dilemma occurs when researchers or funders release data selectively. As an example, suppose an investigator finds a program works well for males but not for females, but in the program reports and articles, no mention is made about the

lack of effects for females. Selective reporting promotes the program, and represents a biased view regarding program effectiveness. It also may mislead practitioners to believe they will attain similar results for all populations.

It is most appropriate to identify hypotheses and analysis plans at the outset of the study, then adhere to those plans. Data for the primary hypotheses should be reported regardless of whether the results are positive or negative. If extensive exploratory analyses are completed to identify any other possible effects, this fact should be stated when reporting the results.

CONCLUSION

This paper addressed three specific areas in which ethical issues arise in conducting scientific inquiry in the private sector: issues involving whether or not to undertake the research; issues involving conduct of the research; and issues involving reporting of results, particularly results contrary to the interests of an organization. These are not the only ethical dilemmas that are likely to surface in the private sector. Many other difficult issues are relevant in this setting, such as minimizing overhead yet covering the costs of important activities not directly tied to a project, including proposal development, general agency tasks, and phone consultations, or making decisions about how to stay within budget and still allow for the full analysis of rich data sets.

Ethical considerations in scientific inquiry are not always apparent. Sometimes potentially troublesome issues will not be obvious until after the problem has developed. Thus, taking time to consider the proper and improper aspects of conducting inquiry is essential for maintaining integrity of the field. It is also an ongoing process that should begin with professional preparation. As noted by Ross and Mico (1980), "values and ethics are not born fully grown but are nurtured by professional preparation, continuing education, and peer review" (Ross & Mico, 1980, p. 280).

As health science education continues to forge a code of ethics that guides scientific inquiry in all settings, we should become familiar with issues likely to arise in any particular setting, and abide by appropriate professional standards within that setting. Undoubtedly, new ethical dilemmas will emerge, or issues will surface with a slightly different slant. By preparing for such situations in advance, we increase the likelihood of maintaining a high level of ethical conduct within the field.

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CHAPTER 10

THE CLINICAL PERSPECTIVE

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Health education in the clinical setting is often referred to as patient education, indicating that the primary target of the education is patients. Individuals in clinical settings seek health care services from a range of health care practitioners. These services are predominantly therapeutic in nature, but increasingly health care facilities also provide preventive health care services. Thus, the focus of health education within clinical settings may include reducing risk for preventable health problems, seeking early detection and treatment of disease, following through with medical treatment for diagnosed health problems, minimizing or reducing consequences of illness, and managing chronic illnesses. When people seek health care, they generally are labeled as patients and enter into a special relationship with the health care provider. Ethical considerations arise when this relationship is confounded with the roles of patient as subject and provider as researcher. The complex social and technical environment of health care services further complicates the dynamics.

Health education research in the clinical setting is usually conducted to evaluate the efficacy of a health or patient education intervention or to gain a better understanding of patients' needs that planning and developing health education interventions require. Therefore, when examining ethical issues generated by

research in the clinical setting, it is essential to consider implications of the quality of the health education intervention.

This paper describes the clinical setting and examines ethical issues that may arise during research in that setting. We discuss ethical principles in light of the characteristics of the health care environment including roles of the patient and health care provider, the patient provider relationship, the complex social and technical site for provision of care, and the randomized clinical trial standard for research design. We also consider the increasing sensitivity toward issues of ethics in health care and health research by the lay public and health care institutions.

CLINICAL ENVIRONMENTS

One over-arching characteristic defines the health care environment: recipients of service often are ill. The situation of having an illness and seeking to become well, or to minimize dysfunction, brings with it roles, relationships, environmental characteristics, and processes that provide the context for applying ethical principles in a health care environment.

Sick Role

One aspect of the patient's status involves the concept of a sick role, first elaborated by Parsons as a social contract wherein the patient is exempt from normal social roles and relieved of responsibility or blame for the illness. In turn, the patient is expected to enter into a relationship with technically competent help and to try to get well (Parsons & Fox, 1952; Parsons, 1975). When a patient enters into a helping relationship and tries to get well or at least minimize dysfunction, an implicit contract suggests the care provided will be the best available, that the patient's needs will be the health care provider's highest priority. This notion arises from a principle central to medical ethics: physicians accept preeminent responsibility to use their best judgment and to care for the individual patient's needs rather than consider the individual patient's needs in light of determining the

best treatment for others (Hellman & Hellman, 1991; Hellman, 1979; Freedman, 1987).

Variations exist in sick role behavior that stem from culture; demographic variables such as age, gender, and social class; and type of illness (Cockerham, 1986, pp. 137-146). However, other role change and contractual aspects to being ill prove important in considering what it means for a patient to be a subject in a research study. Since the time of Parsons' initial analysis, others have analyzed the role. Thus, a related concept important to this discussion involves the idea of legitimacy of illness. A continuum may exist in sick role: from illegitimate or stigmatizing illnesses such as epilepsy (previously) or HIV (currently), to conditionally or temporarily legitimate illnesses such as pneumonia, to unconditionally legitimate illnesses such as cancer (Friedson, 1970).

The recognition that society makes judgments about the legitimacy of an illness and that these judgments change over time is important. The field of health education may influence the definition of legitimacy by emphasizing the individual's role in maintaining a healthy lifestyle and thereby avoiding disease (Green, 1979; Allegrante & Green, 1981; Allegrante, 1986). As a consequence, some cancers and other potentially preventable illnesses may be perceived as less legitimate. Even patient education may place responsibility on the patient for managing the illness and getting well, thereby creating the potential for blame if the patient is unwilling or unable to do so.

Patient/Provider Relationship

People with a suspected or diagnosed illness, or hoping to avoid illness, often enter into a patient provider relationship. Here we limit the discussion of the relationship to traditional western medicine and its providers such as physicians, nurses, nurse practitioners, physician assistants, and other health professionals. At the core of this relationship rests the patient's dependence on the health care provider's unique professional expertise and the possibility of a cure. This fact imbues the physician with

substantial power since patients may perceive the outcome of their health and well-being to be in the physician's control. The basic power differential in the relationship holds implications for the patient's ability to act autonomously. Other aspects of inequality may exist as well, such as differences in social class and education.

If care is provided in an institution such as a hospital or clinic, other assaults may occur on the patient's autonomy caused by depersonalizing policies such as removal of clothing and personal belongings, restriction of movement, and institutional control of access to resources including access to information about diagnosis and prognosis (Coe, 1978; Howard & Strauss, 1975). Hospitalized patients may resent these restrictions but conform, possibly from fear that lack of conformity may result in poor care or abandonment by their providers (Lorber, 1979; Tagliacozzo & Mauksch, 1979). Short-term patients also may lack the opportunity to learn how to maneuver the system, which increases the need for them to conform to its expectations (Lorber, 1979). Certain settings, such as government-funded institutions, may pose even greater threats to justice and autonomy, as patients in these institutions face acute limitations in choice of health care sites (Brett & Grodin, 1991).

Another source of potential difficulty in the patient provider relationship involves inadequate or incomplete communication. Despite evidence that positive patient provider communication improves health outcomes (Kaplan, Greenfield, & Ware, 1989), patients seldom fully disclose their concerns (Beckman & Frankel, 1984), and patients and physicians do not necessarily even agree on the chief complaint in a medical care visit (Burack & Carpenter, 1983). Further, even a relatively simple health education intervention directed at the patient can cause unanticipated effects on physician affect and behavior (Roter, 1977).

Complex Technical and Social Environment

Health care is provided in an increasingly complex environment, both in a social and technological sense. The equip-

ment, procedures, and personnel used in the diagnosis and treatment of illness have proliferated, becoming progressively more specialized. Some hospitals employ as many as nine full-time equivalent personnel per occupied bed representing up to 23 occupational groups (Kurtz & Chalfant, 1991, p.169). It is impossible for the patient to sort out the roles, responsibilities, and authority of these people or to understand fully the technology used and decipher its associated jargon. In this environment, control by the patient becomes difficult, if not impossible; the patient becomes less capable of functioning autonomously or even of deciding whom to please. Patients also may be unable to understand the sometimes subtle differences between experimental and usual care treatments or to understand the behavior expected in a health education intervention.

Another potential problem in this complex environment involves the wide access to medical records and the varying degrees of attention to confidentiality. Insofar as research records are associated with the medical record, or the patient's health care team overlaps with the research team, confidentiality and privacy may be difficult to maintain.

Sensitivity to Health Care Ethics

The current clinical climate is strongly influenced by quickly advancing biotechnological breakthroughs such as psychotropic drugs, gene therapy, organ transplantation, and life support systems. These advancements created controversial and unresolved moral dilemmas including problems of equity and distribution of medical care. These conflicts have been amplified by intensive media attention and public concern about the behavior of all professionals, including physicians and researchers (Callahan, 1980; Eth, 1990; Kurtz & Chalafant, 1991; Munir & Earls, 1992). As a result, health education researchers in the clinical setting live with their medical research colleagues in a culture of heightened ethical scrutiny. Researchers also face the probability of confronting an unresolved ethical area such as organ transplant education used as a vehicle to screen for organ

transplant candidates, or education about genetic defects used to promote genetic screening.

Randomized Clinical Trials

The research design whereby subjects are assigned randomly to experimental treatment and standard therapy or placebo control groups represents the "gold standard" in health sciences research because of its power to control for both recognized and unrecognized prognostic factors. This approach permits reliable estimates of treatment effects and evidence for or against efficacy of treatment. The strength of this design proves particularly important when variability exists in the disease, such as in most cancers, and when treatment effects may be small (Passamani, 1991). Ethical conduct of a randomized control study or clinical trial depends on *equipoise*, the belief by researchers or researchers' health care providers that each arm (treatment condition) of the clinical trial holds equal probability of efficacy (Freedman, 1987). Some would argue that even a hunch or clinical intuition of the provider that the experimental treatment will produce more positive outcomes denies *equipoise* (Hellman & Hellman, 1991). Lack of equality in experimental versus usual care may be especially true for health education research, because a new or experimental program likely is viewed as better than usual care or it would not be introduced to the patient population.

Implications of random assignment for health education research must be considered in designing evaluations. Careful assessments must ensure that the control conditions used would not place subjects (patients) in a situation where they receive no educational program or an inferior program when education is part of the standard of care. The investigator must assess the experimental condition and determine if evidence suggests the experimental condition is superior to the usual care or control condition. If the investigators believe patients will face a disadvantage from not receiving the experimental condition, they may be required to consider alternatives to the clinical trial research design.

QUALITY OF HEALTH EDUCATION INTERVENTIONS

Ethical principles and rules are important not only to protect patients as subjects in research investigations but to ensure that patients receive appropriate and efficacious health education interventions. Ineffective health education practice not only deprives patients of direct benefits from the intervention, but may deny them access to a beneficial program. In the worst case, patients may experience negative side effects or direct iatrogenic effects on their health.

Effective health education practice requires that programs be based on assessment of patient needs, planned with involvement of the target population and program implementors, and designed to fit the context of the patient care setting (Green & Kreuter, 1991). Intervention development builds on needs assessment and knowledge of effective strategies in related settings for similar problems, using systematic application of appropriate social and behavioral science theory (Bartholomew, Parcel, Seilheimer, Czyzewski, Spinelli, & Congdon, 1991). Good science means that both the intervention design and evaluation procedures use social and behavioral science theory to define and measure factors addressed by the intervention. Evaluation methodology must be adequate for the evaluator to reach conclusions about the effectiveness of an intervention with confidence sufficient to enable other practitioners to make informed decisions about further use of the program.

Health educators cannot assume that their interventions, though seemingly benign, will cause no harm. For example, a patient education program that teaches families to manage a degenerative chronic illness such as cystic fibrosis must carefully guard against increasing the family's expectations that effective self-management necessarily leads to better health or quality of life outcomes. Another potential negative effect of patient education places the added burden of compliance on the patient and family, such as compliance with the educational program and

new behaviors. This situation provides one more opportunity for health care providers to judge the patient as deficient: a patient can be a poor learner or a nonparticipant as well as a bad patient.

Another problem confronts health education practice in clinical settings: educational programs can be used to benefit the institution rather than its patients. For example, programs may be evaluated based on saving the institution money or increasing revenue, independent of patient benefits. With increasing competition, some health care institutions use flashy health education programs as marketing tools. The programs often lack proven efficacy, but they attract customers. Other questionable practices include using education as a substitute for costly care with patients who cannot pay for services, or inversely, providing educational services only to those who can pay.

APPLICATION OF ETHICAL STANDARDS

Ethical principles and standards for health education research discussed elsewhere in this monograph for the most part involve similar applications to the health care setting. The following section discusses implications of selected principles and related rules for protection of human subjects in the clinical environment.

Respect for Persons

Respect for persons includes the responsibility to promote autonomy and self-determination rather than dependence. Rules related to this principle include voluntary consent and withdrawal and the protection of confidentiality and privacy. The patient sick role, the patient provider relationship, and the institutional environment where health care is delivered all foster dependence. Thus, it may prove difficult, if not impossible, to gain truly voluntary participation of patients in research studies. The patient's desire to please the health care provider may be overwhelming, particularly when the disease is terminal or

catastrophic or when the family makes the decision for a child or other seriously ill dependent. Furthermore, the complexity of current medical procedures and health care staff may make it virtually impossible for patients and their representatives to understand fully the difference between research treatment and usual care procedures. Difficulties in patient provider communication may compound the difficulty.

When designing research for this setting, particular attention must be paid to defining the treatment and usual care conditions so patients understand. Researchers must spend the time and effort necessary to enable patients to understand the study, treatment and control conditions, potential benefits to self and society, risks, burden, behavioral requirements, and responsibilities of the investigators. The researcher must obtain a statement in the patient's own words confirming this understanding. Patients must understand and believe that refusal to participate will not damage the relationship with their health care providers or their access to optimal treatment. Consequently, the appropriateness of the health care provider serving as recruiter of research subjects may be questionable.

Children should be given the opportunity to assent to or decline participation even when guardians have given consent. In some cases a neutral party also may be required to assess benefit and to give consent to participation in a research study.

Beneficence

Beneficence encompasses the obligation to benefit one's patients, and its converse, nonmaleficence, the obligation to do no harm. Experiments must be designed to obtain results that will benefit society, and researchers are obligated to consider benefits to research participants. All negative consequences of the research should be considered and disclosed to patients, and all precautions necessary and sufficient to protect subjects from the possibility of harm should be taken. The principal investigator should be prepared to terminate the experiment at any time it appears that injury or death might result. Clinical trials also

must be halted and experimental treatments made available to control subjects when evidence suggests greater efficacy of the experimental over placebo treatment.

At least three important questions relate to the principle of beneficence regarding health education research in the health care setting. First, does conducting research conflict with the clinician's obligation to provide optimal patient care? Second, is equipoise possible with health education treatments? If not, then alternative evaluation designs other than randomization to treatment and control or usual care groups need to be used. Finally, will participation in the research lead to or cause any harm? This question must be taken seriously for a health education intervention study, though standards for judging risk may be less concrete and obvious than in other types of health sciences research.

Justice

Justice involves concern for fairness in distribution of both burdens and resources. With respect to patients, justice demands impartiality in choosing subjects for a research study. Subjects must not have a higher risk of being chosen for studies because they are captive or vulnerable populations, such as children or prisoners; nor should population subgroups be excluded from studies of phenomena or treatments that might be helpful to their group because they are difficult to reach, such as minorities, the elderly, or women. Another issue of justice involves the researcher's responsibility for continued availability, and expansion to similar target populations, of interventions and programs that research proves effective. This point suggests that health educators plan for diffusion of successful programs as part of their application for research funding.

Utility

Utility includes the principle of balancing conflict among competing ethical principles to achieve the greatest good. Interaction of the preceding principles and related rules with characteristics of the health care environment creates challenges for

ethical analysis. Likewise, in health education practice, any of the principles can conflict with other principles. For example, beneficence and autonomy: Do you do what is best for the patient or what the patient decides? Conflict also may arise regarding application of a single principle, for example, beneficence: Do you do what is best for the individual or what is best for a group or for society as a whole?

CONCLUSION

Health education research in clinical settings must serve the patient. The patient's best interests are served by following guidelines for the ethical conduct of research and by maintaining high standards in developing quality health education interventions. Researchers, health care providers, and health education practitioners each are responsible for ensuring that patients receive efficacious health education interventions and for ensuring that programs are developed, implemented, and evaluated within guidelines that protect the patient-subjects from adverse effects of the educational intervention or research. Health educators also are obligated to monitor the ethical behavior of collaborators and colleagues to ensure a culture that protects the rights of patients as research subjects. This responsibility extends to reviewing all protocols and procedures as well as to reporting observed or suspected unethical conduct.

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CHAPTER 11

THE BIOMEDICAL PERSPECTIVE

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As the link between health and behavior continues to emerge as a public health priority, it becomes increasingly important for social, behavioral, and biomedical scientists to follow well- defined professional standards for the ethical conduct of research (DHHS, 1993). Professional ethics represent a special type of applied ethics. They determine the duties specific to the members of a profession and the rights accepted by society (Beauchamp & Childress, 1998; Barker & Baldwin, 1991). Ethical conduct (Garrett, Baillie, & Garrett, 1993) is proscribed in codes of ethics promulgated by numerous professional organizations. In the health education profession the Society of Public Health Educators (SOPHE) and the Association for the Advancement of Health Education (AAHE) developed codes of ethics for the profession (Patterson & Vitello, 1992; Greenberg & Gold, 1992) that include standards for the conduct of research. This paper reviews briefly the foundations for health-related ethics, reviews current federal laws and regulations governing research involving human subjects with an emphasis on social and behavioral studies, and highlights emerging challenges for professional ethics in the conduct of health research from a biomedical and federal agency perspective.

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FOUNDATIONS OF HEALTH RELATED ETHICS

Ethical theories addressing characteristics of human activity include three categories: consequentialism, deontology, and virtue ethics (Garrett, Baille, & Garrett, 1993). Consequentialist theory views the rightness or the wrongness of an action in terms of consequences wrought by that action. The most common form of consequentialism–utilitarianism–posits that one should act to do the greatest good for the greatest number. The general principle deals not so much with welfare of the individual but rather of larger groups. Deontology, the second category of ethical theory, focuses on respect for individual autonomy. The third area of virtue ethics, broadly defined, involves integration of virtues. Numerous ethical issues associated with the practice of medicine and the pursuit of biomedical research constitute the subject matter for biomedical ethics (Doxiadis, 1990; Koocher & Keith-Spiegel, 1990; Levine, 1988). The term, bioethics, is used inter-changeably with biomedical ethics. However, biomedical ethics often represents a broader reference to include medical, nursing, behavioral, and other health-related professions (Mappes & Zembaty, 1991).

Biomedical ethics also is considered an interdisciplinary field (Mappes & Zembaty, 1991) since it applies theories from socio-political philosophy, law, theology, medicine, biological sciences, and the social and behavioral sciences. Biomedical ethics constitutes a subdiscipline within ethics and an area of specialization for philosophers and theologians. While issues related to biomedical ethics are rooted in codes of medical ethics dating from Hippocrates, biomedical ethics only became a discipline in the 1970s. Centers conducting research in ethics now exist, for example, at the Hastings Center, the Poynter Center at Indiana University, and the Joseph and Rose Kennedy Institute of Ethics, at Georgetown University. A range of ethics literature also emerged in recent years. The field has an Encyclopedia of Bioethics, and journals such as the Journal of Medicine and

Philosophy, the Journal of Law, Medicine, and Ethics, and Ethics and Behavior.

Both the government and professional societies have devoted substantial attention to the ethics of research. Principles contained in the 1948 Nuremberg Code, dating from the Nazi war criminal trials, and the Declaration of the World Medical Association of Helsinki published in 1964 and last revised in 1989, were incorporated in the 1978 Belmont Report prepared by the National Commission for the Protection of Human Subjects for Biomedical and Behavioral Research. Professional organizations such as the American Psychological Association and the American Medical Association also specify ethics for both academic and clinical investigations (Schuler, 1982; DHHS, 1993).

Concerns about justice in conducting biomedical research involving human subjects received limited attention until publication of the Belmont Report which outlined three principles to govern research: Respect for persons (*Autonomy*) reflected by informed consent procedures and in special considerations for vulnerable persons who might participate in research; *Beneficence*, assessment of risks and potential benefits to participants in research through careful IRB review; *Justice*, through equitable and appropriate selection of subjects, neither including vulnerable persons already burdened who could not benefit nor excluding certain classes of persons who could benefit by inclusion in research (DHHS, 1993).

CURRENT FEDERAL REGULATIONS GOVERNING RESEARCH

Scientists should be familiar with current federal regulations of importance for conducting social, behavioral, and biomedical research. Several key laws, regulations, policies, and guidelines related to ethical principles are important for conducting social or behavioral research including protection of human participants in research, school-based research, and other topics of guidance.

Protecting Human Participants in Research

Regulations for the Protection of Human Subjects of Research, from the Department of Health and Human Services, are found at Title 45 Code of Federal Regulations Part 46 (45 CFR 46). The document may be obtained from the Office for Protection from Research Risks, Office of Extramural Research, National Institutes of Health, Bethesda, MD 20892, telephone 301-496-7005; Title 45 Code of Federal Regulations Part 46, Subparts A-D, 1994. All research conducted or supported by DHHS must comply with these regulations. In addition, over 400 major U.S. research institutions agreed to conduct all research involving human subjects under their auspices in accordance with these regulations, regardless of funding source for the research.

Four subparts comprise the regulations. Subpart A, the Basic Policy for Protection of Human Research Subjects, contains, among other provisions, an explanation of applicability, definitions of human subjects and of research, membership and functions of institutional review boards (IRBs), informed consent elements, and description of the type of documentation needed before DHHS-supported or conducted research may take place.

Of particular note to social and behavioral researchers are several sections. First, a human subject is defined as a living individual about whom an investigator conducting research obtains 1) data through intervention or interaction with the individual; or 2) identifiable private information [45CFR46.102(f)]. Second, research is defined broadly as a systematic investigation including research development, and testing and evaluation, designed to develop or contribute to generalizable knowledge [45CFR46.102(e)].

Several exemptions from the regulations, which apply to social and behavioral research, pose minimal risk to individual participants [46.101(b)(1-6)]. These exemptions, which must be carefully interpreted, may bear careful reading and discussion

with staff at the IRB of one's institution or with the Office for Protection from Research Risks (OPRR), DHHS. The exemptions cover certain studies involving research conducted in established or commonly accepted educational settings, involving normal educational practices, such as research on regular and special education instructional strategies, or research on effectiveness of, or comparison among instructional techniques, curricula, or classroom management methods [45CFR46.101(b)(1)].

Other areas of exempt research concern certain research involving use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior [45CFR46.101(b)(2) and (3)] or research involving collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are available publicly or if the information is recorded by the investigator such that subjects cannot be identified, directly or through identifiers linked to the subjects [45CFR46.101(b)(4)]. These regulations were created to implement principles identified in the Belmont Report.

Subpart B of the regulations addresses DHHS research protections pertaining to research, development, and related activities involving fetuses and pregnant women. Subpart C deals with protections pertaining to biomedical and behavioral research involving prisoners as subjects, and Subpart D with protections for children involved as research subjects.

Interest in conducting research in prisons has grown with the spread of the HIV epidemic and as drug use and prevention of violent crime have become national concerns. Research in prisons can be conducted under certain specified conditions if the study benefits incarcerated persons or advances knowledge about prison conditions [45CFR46.306]. However, limitations exist on the nature and type of research involving institutionalized populations whose ability to give voluntary consent is diminished because of their confinement.

Research involving children also carries specific regulatory requirements. For example, survey and interview research involving children is not exempt [45CFR46.401]. Assent of children, as well as permission from parents, are important considerations in research design. Four categories of research involving children which define varying risk-to-benefit considerations must be applied by an IRB when reviewing a project involving children. Unique challenges in designing ethical research involving children often occur in school-based research. The regulations permit waiver of parental permission for conducting research, but only after an IRB carefully considers explicit criteria for minimal risk research [45CFR46.116(d)]. Procedures such as "passive consent" from parents are not acknowledged *per se* in the regulations; the IRB must strictly apply criteria for waiver of consent altogether to use a procedure whereby parents are informed by letter that research involving their children will be conducted unless they explicitly object.

An additional challenge to research involving adolescents occurs where parental permission may not appear appropriate or reasonable (Rogers, D'Angelo, & Futterman, 1994). Again, as the HIV crisis continues, questions about adolescents' behaviors and how best to reach youth with important messages has spurred research involving this population. The regulations do not explicitly address research involving adolescents, and research designers and IRBs must grapple with regulatory and ethical circumstances under which parental permission for research is not required.

The OPRR produced the 1993 Protecting Human Research Subjects Institutional Review Board Guidebook, a useful document for scientists planning research. The publication provides a history of human subjects protection, the Belmont Report, discussion of IRB operations and review criteria, various regulations and policies of DHHS, considerations of research design, and overview of biomedical and behavioral research, protection for special classes of subjects, and an extensive bibliography (DHHS, 1993).

In 1991, 16 federal departments and agencies promulgated the Federal Policy for the Protection of Human Subjects, sometimes referred to as the Common Rule. [Federal Policy for the Protection of Human Subjects; Notices and Rules, 56FR28002, June 18, 1991]. The federal policy is the same as Subpart A of DHHS regulations at 45CFR46. Research conducted or supported, and some regulated research, are covered by the same rules. In addition, while other federal departments and agencies have not adopted in regulation the Subparts B, C, and D of DHHS regulations at 45CFR46, most adopted these regulatory provisions administratively or by reference in various policy documents.

School-Based Research

Several laws and regulations applying to activities under the Department of Education and to local schools are relevant to researchers contemplating school-based studies. These directives include (1) Protection of Pupils Rights Act, in the Goals 2000: Educate America Act, (Pub. 103-227, Sec. 1017, 108 Stat. 268, 1994). This directive amends the General Education Provisions Act, 20 U.S.C. 1232 g-h); and (2) Protection of Rights and Privacy of Parents and Students Act, 20 U.S.C., Sec. 1232 g, 1988 as amended Supp. V. 1993).

Other Sources of Guidance

Other countries have developed a plethora of laws and policies setting parameters for involvement of populations in research. The best-known policies include Guidelines on Research Involving Human Subjects, Medical Research Council of Canada, 20th Floor, Jeanne Mance Building, Tunney's Pasture, Ottawa, Ontario, Canada K1AOW9, 1987; the International Guidelines for Ethical Review of Epidemiological Studies, Council for International Organizations of Medical Sciences (CIOMS), Geneva, 1991; the CIOMS International Ethical Guidelines for Biomedical Research Involving Human Subjects, Council for International Organizations of Medical Sciences in collaboration with the World Health Organization, Geneva, 1993; and ethics

documents produced by the Medical Research Council of the United Kingdom, such as the Ethical Conduct of Research on the Mentally Incapacitated, Medical Research Council of the United Kingdom, Working Party on Research on the Mentally Incapacitated, London, 1991.

Other items also guide the ethical conduct of research. For example, the Federal Certificates of Confidentiality is based on interim guidance from the U.S. Public Health Service to exercise the 1988 authority to grant protection against disclosure by compulsory legal processes of personally identifiable research information. Researchers authorized to protect the privacy of research subjects may not be compelled in any federal, state, or local civil, criminal, administrative, legislative, or other proceedings to identify such individuals [Pub. L. No. 100-607, Section 163, November 4, 1988; Sec. 301(d) United States Public Health Service Act; "Protection of Identity - Research Subjects, Section 301(d) of the Public Health Service Act, Interim Policy Statement," DHHS, Office of the Assistant Secretary for Health, Washington, D.C., 1989].

EMERGING BIOETHICAL CHALLENGES FOR RESEARCH

Recent scientific, technological, and psychosocial innovations pose new challenges for health professionals in ethical research and practice. These advances motivated institutions, professional societies, and governments to develop guidelines for the field on numerous biomedical research topics such as human organ transplantation, fetal research, and genetic engineering (AAAS, 1992). Research challenges that invite application of biomedical ethics emerge from diverse sectors. These challenges include, for example, inclusion of women and racial and ethnic groups in research (Mastroianni, Faden, & Federman, 1994), creation of the National Bioethics Advisory Commission (NBAC), HIV-related research, and genetic research screening and counseling.

National Bioethics Advisory Commission

In late Summer, 1994, the Office of Science and Technology Policy published a Notice seeking comment on a proposal to establish a National Bioethics Advisory Commission within the Executive Branch (59FR41584, August 12, 1994). The proposed Commission would consider issues of bioethics arising from research on human biology and behavior and the applications of that research. The advisory body would expand work of the now-expired National Commission; the Department of Health, Education, and Welfare's Ethics Advisory Board; and the President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research.

The Commission would identify and develop broad overarching principles to govern the ethical conduct of biological and behavioral research and applications of that research. The Notice identified several points in which bioethical concerns need priority and visible attention in the areas of management and use of genetic information and protection of the rights and welfare of research subjects. Topics include issues of genetic privacy, screening for genetic disorders, access to research data or materials developed with public funding, and appropriate informed consent. Other areas of concern involve adequacy and implementation of federal human research data and the ethical aspects of access to costly health care technology.

Examples of Research Areas Needing Attention

In addition to topics noted above, one area receiving extensive attention involves ethical principles related to inclusion of minorities and women in research. In Summer 1993, the Food and Drug Administration published Guidelines for the Study and Education of Gender Differences in the Clinical Evaluation of Drugs (58FR39406, July 22, 1994). This document provided guidance on the FDA's expectations regarding inclusion of both genders in drug development.

In March 1994, the National Institutes of Health (NIH) published NIH Guidelines on the Inclusion of Women and Minorities as Subjects in Clinical Research (59FR14508, March

28, 1994). These guidelines were published in response to the NIH Revitalization Act of 1993 (Pub. L. 103-43, June 10, 1993), which directed NIH to establish guidelines for including women and minorities in clinical research.

Another area creating considerable debate and concern over ethical dilemmas involves genetic research and the Human Genome Project. Technological capabilities have outstripped the comfortable legal and ethical solutions about privacy, informed consent, ownership of data, and patent policy. In each person's genome lies a store of information about the individual's past, present, and future health status and that of his or her family as well. Issues surface at all stages of investigation of the genome including research on location of markers for genetic conditions, when and whom to tell what, how large family studies should be conducted, how much identifiable information can be shared with other researchers without breaching consent, and screening, testing, and counseling about genetic conditions foretold in the genome. Understanding the human genome presents vast opportunities for improving health, but with this understanding comes unintended consequences of promoting discrimination in insurance and employment, risks of breaching privacy, and dilemmas in revealing or sharing information about conditions for which no interventions currently exist. Unravelling the human genome presents a plethora of ethical challenges as we move into the next century.

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CHAPTER 12

THE NEW FACULTY MEMBER'S PERSPECTIVE

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Issues concerning right and wrong, fair and unfair, just and unjust, responsibilities to colleagues, students, employers, and society represent critical components of an academician's ethical orientation (Payne & Charnov, 1987; Frankle, 1981). For a new faculty member with a fresh Ph.D., relatively young in chronological age, and an "outsider" to the establishment, the notion of determining ethical professional conduct can seem threatening and ill-defined.

New faculty members bring to the institution a values framework that has been developed by previous political, social, religious, and educational experiences (Charnov, 1987). However, they are usually unprepared to defend the integrity of their framework against other frameworks inherent in the department, college, and university, which posit different definitions of good citizenship. New faculty may be unaware that institutions can officially communicate one set of expectations while actually expecting other actions (Charnov, 1987).

Most ethical issues that new health education faculty encounter are similar to issues prevalent in other disciplines. The following four areas present potential problems or conflicts for the new faculty member in terms of appropriate ethical conduct. Exploration of these areas may not prevent unethical behavior, but it might reduce mistakes due to ignorance or a preoccupation with the tenure process.

PREPARATION IN GRADUATE SCHOOL

Much of the important education for surviving in academe, including standards of ethical and professional conduct, continue to be derived informally through the socialization process and communication with mentors and peers (Payne & Charnov, 1987). Doctoral candidates are not introduced systematically to a career in academia, nor have most completed a course that addressed professional ethics (American Association of Colleges, 1985). Also, teaching as a graduate assistant hardly prepares new faculty to function as autonomous professors with expanded duties of conducting research and obtaining outside funding. Even if new faculty have acceptable role models for teaching and research, they rarely have a comprehensive model that reflects the wide range of expected behaviors for a tenure-track appointment (Charnov, 1987). These shortcomings in professional preparation place the new faculty member at risk for unethical conduct due primarily to lack of experience.

RESEARCH AND PUBLICATION

Academic disciplines cannot thrive without original contributions to the knowledge base. Therefore, all faculty members capable of conducting research are obligated to do so. Conducting research and publishing manuscripts should be the result of a faculty member's commitment to advancing the discipline (Cahn, 1986). This responsibility usually is not stressed in graduate education, and it is often overlooked in the drive for tenure and promotion. If a discipline is to thrive, all scholars must contribute to its growth (Cahn, 1986).

New faculty are expected to publish early and to publish in reputable journals. If not, their ability to obtain tenure and promotion may be jeopardized (Charnov, 1987). The emphasis on scholarly productivity is seldom stated as paramount by administrators, and individuals are not instructed to neglect

teaching and service, but the message will be loud and clear (Charnov, 1987). The pressure to publish may lead to plagiarism, fabrication of data, exploiting the work of graduate students, and other questionable practices (Campbell, 1987; Cahn, 1986; Iammarino et al., 1989). The drive for quantity instead of quality also contributes to shoddy scholarship (Cahn, 1986). "Scholarship should be carried out conscientiously, with due attention to detail. . . Thus available literature should be cited carefully, all citations be accurate, opposing views should not be distorted, and conclusions should not be overstated" (Cahn, 1989, p. 45).

The pressure to publish can lead to questionable journal submission procedures. Ethical dilemmas may be compounded by unclear or conflicting ideas concerning what constitutes inappropriate submissions such as *fragmentation* and *duplication* (Campbell, 1987). Fragmentation refers to the publication of multiple manuscripts from the same data set, which could have been reported as one manuscript (Iammarino et al., 1989). Duplication refers to submitting the same manuscript to multiple journals.

Through multiple submissions, a new faculty member may seek to increase the chance of finding a favorable review and minimizing time lost during the evaluation process (Campbell, 1987). However, multiple submissions misuse editorial resources, increase publication costs, and delay consideration of other manuscripts in the system (Campbell, 1987; Iammarino et al., 1989). Authors also risk the chance that the manuscript will be accepted by all of the journals, with none of the editors allowing the author to withdraw the paper from consideration (Iammarino et al., 1989).

Fragmentation and duplication make it difficult to assess the significance of the author's contribution. At what point is a variation of a manuscript different enough to be submitted as another manuscript? Some journal editors believe that it is not unethical to submit the same paper, or a variation of the paper,

to different journals having little or no readership overlap. From this perspective, audience overlap--not dual publication--is the issue (cited in Campbell, 1987). Other editors believe that researchers have an ethical responsibility to at least indicate all the papers generated from the same data set (Beyer, 1985).

COLLABORATION AND JOINT AUTHORSHIP

Major research projects usually involve a team of researchers (Austin & Baldwin, 1991; Iammarino et al., 1989). Collaboration involves researchers working together and sharing mutual responsibility for their joint endeavors (Austin & Baldwin). By combining resources and dividing labor, researchers can increase productivity and reach goals otherwise unattainable. Collaboration ranges from contributing ideas and information to a project to complete involvement in a project and co-authoring manuscripts (Austin & Baldwin, 1991). When used to further the mission of the institution and the discipline, collaboration enhances the quality of scholarship and teaching (Austin & Baldwin, 1991).

For many new faculty members, collaboration probably represents more of a requirement than an option for success. Even within a supportive environment, "it is difficult for a new scholar to take the first few steps toward establishing a publication record while simultaneously teaching new courses and mastering the fundamental principles of sound pedagogy" (Cahn, 1986, p.53). New faculty members may encounter a situation where allocation of department resources, such as research assistants and clerical support, favors senior faculty or those with an established record (Charnov, 1987). Likewise, new faculty have limited opportunity to collaborate with senior faculty if senior faculty no longer conduct research and are not current on issues pertinent to the discipline.

In today's competitive environment, new faculty should take advantage of collaborative opportunities, even if it means going outside of their departments. Collaboration can help the

new faculty alleviate professional isolation, maintain motivation, access special skills or expertise, and access research equipment and research funds (Austin & Baldwin, 1991). However, when carried to extremes, collaboration can threaten an individual's professional identity. Under the current academic reward system, this approach can be especially detrimental for new faculty without a solid record of independent work to their credit (Fox & Faver, 1984).

It is not uncommon for new faculty to be exploited and manipulated when they enter into collaborative arrangements with senior faculty (Austin & Baldwin, 1991). The new faculty member's first collaborative effort probably will be publishing the dissertation with members of the doctoral committee. The pressure to publish may lead committee members to demand that their names be listed on works published from the dissertation, even if their participation merely involved attending committee meetings. Who should receive the authorship credit? Some advisors may want to be listed first, especially if they initiated the project, wrote the grant, paid the student's stipend from the grant, provided other financial assistance, or equipment and laboratory space (Fine & Kurdek, 1993; Austin & Baldwin, 1991). These issues and expectations should be reviewed and resolved before the manuscript is written. Will the new faculty member recall these issues when he or she works with graduate students?

When a research project is expected to generate major funding, a new faculty member may ask an established researcher or a senior faculty member with a good funding record to be a co-investigator. However, the new faculty member usually does the bulk of the research and writing, while the senior faculty member contributes little of substance, yet receives significant credit and primary authorship. This practice is customary in some fields with senior faculty members who are well established and those with political standing (Austin & Baldwin, 1991; Campbell, 1987; Cahn, 1986).

The sequence of authors' names appearing on a work may lead to ethical problems. It is not uncommon for names of senior researchers to appear on works to which they made little or no significant contribution (Cahn, 1986). When a new faculty member asks the department chair or senior faculty to review and edit their work, the senior colleagues may imply they made a contribution and expect to be listed as an author (Iammarino et al., 1989). Responsibilities of senior faculty to new faculty should include a "willingness to read and comment on manuscripts, to help identify appropriate journals and presses that might publish such work, to visit classes and offer tips on pedagogical improvement, to review and make suggestions about course syllabi and examinations, and to discuss specific issues that may arise regarding academic ethics. . . Failure to offer such help is blameworthy. Senior professors should be seeking ways to alleviate the problem; they should not be aggravating it" (Cahn, 1986, p53).

Scholars should not receive authorship credit for works actually written by others or for work to which they made little or no substantive contribution in conducting the project, preparing the manuscript or both (Fine & Kurdek, 1993; Cahn, 1986; Iammarino et al., 1989). If the project or manuscript could have been completed without the individual's input, then that individual does not warrant authorship credit. Advice or critique provided can be viewed as professional courtesy (Iammarino et al., 1989). In determining authorship credit, "whether one's role was paid or non-paid, faculty member or consultant" may be considered (Iammarino et al., 1989 p.102). However, the nature of the contribution rather than the compensation of the individual should be the determining factor (Fine & Kurdek, 1993). For the collaboration process to work for the new faculty, a clear understanding of what the problem is, who is going to do what, and when each of the party will complete his or her responsibilities must be present (Austin & Baldwin, 1991).

WOMEN AND MINORITY FACULTY

Women and minorities do not enter academe with the same support, contacts, collegiality, or political savvy that can lead to career benefits as do their White, male colleagues. African-Americans, especially females, often have difficulty establishing the kind of networks that lead to collaboration in writing and grantsmanship, positions of responsibility in professional and scholarly associations, editorships, and consultancies (Frierson, 1990; Peterson, 1990). Minority scholars often feel isolated and alienated. They also are given committee assignments as a "minority representative" which takes time away from their scholarship (Cullota, 1993). Attrition from academia is more likely to occur with women and minorities than their White, male colleagues (O'Brien, 1990). In a national study of minority Ph.D.'s, Brown (1988) concluded that Black Ph.D.'s have the "most fragile status of all minorities and their participation in academe is, at best, marginal" (Brown 1988, p.25).

Senior faculty members and department chairs may caution women and minority faculty to avoid feminist or ethnic research. Minority faculty members whose scholarship focuses on ethnic issues express tremendous concern over having their work devalued and dismissed as out of the mainstream (Banks, 1984). Scholarly journals with a minority emphasis may not be valued by the department or the discipline and many minority faculty members feel they must cultivate a scholarly interest acceptable in "White" journals. The community involvement of these scholars, like their scholarly work, is often oriented toward social change, which is devalued as nonacademic and questioned as to its appropriateness (Banks, 1984; Bourguignon et al., 1987).

CONCLUSION

New faculty face a difficult challenge in the task of learning how to make the successful transition to academe and how to

become a successful professor. Preparation for dealing with the ethical issues in academe and for the conflicting roles of researcher, teacher, and service provider must be a systematic part of graduate education. The employing institution can help new scholars by giving them a reduced teaching load the first year, using senior colleagues as mentors, and discussing ethical issues as part of the new faculty orientation. How well individuals can adhere to established professional ethics and norms is rooted in their personal values framework. The construction, maintenance, and destruction of an individual's reputation and integrity ultimately lie in how well he or she resolves ethical conflicts.

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CHAPTER 13

THE STUDENT'S PERSPECTIVE

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Pursuing a doctoral degree represents a unique experience in one's life where duality defines existence. In one sense you are a student, diligently striving to acquire new knowledge and skills in the discipline. Yet, you also function as a faculty member often with significant teaching responsibilities and the demand and desire to be involved in service and research. The experience provides a fertile training ground for future life in academia, but you completely fit neither the role of student nor faculty member. The experience of doctoral students is unique to time and place, so the opinions expressed here truly represent a student perspective, rather than the student perspective on research ethics.

Graduate students often incur substantial work experience and previous education that alter their expectations and abilities in the classroom. This experience, perhaps more than anything else, defines a student's approach to research ethics. In the Indiana University program, students have worked in education, public and private health agencies, hospitals and health care institutions, and the military, and they have functioned in a variety of roles prior to beginning their doctoral studies. Work and life experiences serve a crucial developmental role in ethics.

Within this dual role of a graduate student, we become more secure in our academic and professional abilities, but attaining mastery as an effective researcher takes substantially

more time. Compared to conducting original research, which represents the primary focus of doctoral programs, reading and understanding existing literature on a subject seems a relatively uncomplicated task. Producing meaningful work requires trial and error and experimentation with new ideas and procedures. Students benefit most when professors take the time to illustrate the ethical practice of research, as well as providing instruction on research methods.

Much has been made about the lack of a formal, universally accepted code of ethics for health educators (Iammarino, 1989, p. 104). Troubling to a degree, the issue should be considered within broader context of professional conduct. Professional ethics cannot be proscribed by dictum. Rather, ethics must be practiced everyday in all research efforts by health educators. We all live by some code of behavior in the way we conduct our business and personal affairs. A person who treats people with respect and who has integrity will bring these traits to the research they conduct. In one respect then, students with a strong sense of ethics will have little difficulty translating these principles into their professional practice. But graduate programs have the responsibility to address key ethical issues.

Specific issues must be addressed as part of health education professional preparation. Graduate schools should teach about commonly accepted ethical practices of research and assist future health educators in defining their own ethical standards. The adage that "actions speak louder than words" seems simplistic, but it is wholly applicable. For professionals to properly train students in the ethics of research, they must exhibit ethical conduct and approach research with integrity. Works should provide a meaningful contribution to the collective body of knowledge and include the fundamental concepts of proper documentation, confidentiality, informed consent, lack of bias, impartiality, and financial accountability (LaFleur, 1987, p. 13).

Within the broader area of ethical research, graduate students face three major areas of concern: the professor-student

relationship, financial accountability, and lack of formal ethics training.

PROFESSOR-STUDENT RELATIONSHIP

A particularly sensitive aspect of research ethics involves the professor-student relationship. What recourse do students have if they are treated unethically? Horror stories abound of overworked graduate students toiling away on research projects and receiving no credit for their efforts. But more often, the opposite seems true. Faculty members often want to involve graduate students in the research process, and they seek to provide valuable experiences that lead to increased skills. However, they do not always take time to make sure students are fully involved. Faculty should take a proactive role by involving graduate students in ongoing research from the beginning of their graduate study and enthusiastically support student efforts to initiate their own investigations.

In instances where students are treated improperly, can real restitution be made? Can graduate students have their cases heard by the department or university and receive equitable treatment without the specter of reprisal? Many students believe that reporting suspected unethical misconduct by a faculty member may lead to retaliation against them (Swazey, 1993, p. 542). They struggle with potential ramifications that could result if questions of ethics are raised about a faculty member's conduct. Students and professors have the responsibility to be honest, share expectations, and deal effectively with the inevitable conundrums that result as part of this unique relationship.

Sometimes the problems become greater than the petty foibles of graduate study. Real feelings of anger and betrayal often stem from poor communication and changing priorities of the parties involved. The professor should lay the ground rules in advance for productive and conscientious faculty-student collabo-

ration. For example, a student used a data set provided by a faculty member, conducted the analysis, and submitted a paper with the understanding that the faculty member approved the process. Only after the paper was accepted for publication were questions raised regarding initial approval for access to the data. Subsequently, the student was forced to withdraw the paper, and a similar work was resubmitted under the faculty member's name. This process resulted in hard feelings, to say the least. Miscommunication in this case easily could have been avoided had use of the data been fully discussed and documented before any work was done. Initiating and directing this process should be the responsibility of the faculty member.

FINANCIAL ACCOUNTABILITY

In an era of diminishing resources for higher education, health education researchers must be ethical in securing and using funds. The art of securing external funding may well pose some of the most difficult ethical dilemmas for the researcher. Health educators have an ethical responsibility to secure funding for research that will contribute meaningfully to the profession and to society. Acquiring the means to conduct such research is often frustrated by lack of funding rather than a surplus or misuse of resources (Rubinson, 1988, p. 243).

The admonition to "publish or perish" perhaps most accurately describes the impetus to secure external funding. The funding agency should receive a reasonable return on investment and researchers must spend dollars judiciously. Financial accountability is crucial to establish a responsible record for the individual investigator, to further the development of the profession in the eyes of the public, and to improve the standing of health education among academic disciplines (Hollander, 1987, p. 41).

Medicine, which serves as a founding discipline for health education, may have the most elaborate code of ethics of all professions. The ethics of health care call for confidentiality of

patient information and focusing on patient needs above all other considerations. Despite this high standard for medical practice, differences exist in the quality of care delivered to patients based on their ability to pay (Odom, 1988, p. 11) and medical research has historically focused on white, middle-aged males.

The medical code of ethics provides a practical guideline for health educators. However, health education research should focus on varying populations without regard to financial means. The literature contains numerous studies by health educators who committed resources to research underserved populations. Health educators should be commended for these efforts and researchers-in-training would be well served to continue and expand these endeavors.

LACK OF FORMAL ETHICS TRAINING

Studies have noted the dearth of formal ethics training in most graduate programs. The ethics of health education practice often are incorporated into the curriculum but specific courses on ethical issues in both health education and common minor areas are rare (Drass, 1989; McEuen, 1990; Stanley, 1984). A separate course in ethics would be a valuable addition to graduate study. A comprehensive course could address the role of educators as agents for behavior change, ethics of organ transplantation, sexuality issues, and death education. Other topics such as data sharing, confidentiality, under-reporting, and the ethics of peer review also could be included (Serebnick, 1991; Blanck, 1992).

As mentioned previously, graduate students often possess a well-formed moral code when they enter a program. Formally incorporating ethics training could clarify the values of students and instruct them on key concepts of the ethical practices of the profession.

CONCLUSION

Reaching consensus on ethical conduct represents a challenging but worthwhile goal. The process of logically approaching ethical issues and considering various viewpoints proves vital to the intellectual development of health educators. Future generations of health educators enjoy the opportunity to build on a solid foundation established by current and past practitioners. Technological, medical, and cultural innovations are advancing at breakneck speed. Students of today will be delving into research topics during their careers that were unimaginable only a few years ago. We would be well-served to take the time to set our course for this journey by the map of the highest possible ethical standards.

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CHAPTER 14

CODE OF ETHICS FOR HEALTH EDUCATORS

PREAMBLE

Association for the Advancement of Health Education

Health education is a process concerned with designing, implementing, and evaluating educational programs that enable individuals, families, groups, organizations, and communities to play active roles in achieving, protecting, and sustaining health. Its purpose is to contribute to health and well-being by promoting lifestyles, community actions, and conditions that make it possible to live healthful lives. Health educators have professional responsibilities to the community and society in which they work and live. They apply and make public their knowledge of health with integrity and dedication to the truth. Health education is not the answer to every health problem and should not be positioned as a stand-alone, independent strategy. However, carefully planned and implemented programs are an essential component of effective health promotion, disease prevention, treatment, and care.

Health education is based on humanitarian and democratic ideals. Health educators are dedicated to improving the health of individuals and groups through educational interventions and other strategies that are characterized by respect for competing value systems, an overriding commitment to self-determination, justice, and the right of individuals to make informed choices. Health educators employ a recognized body of knowledge about human health and disease in order to promote well-being. They liberate people through the honest exchange of accurate and valid information, with appropriate consideration and respect for human diversity and the right of individuals and communities to determine their own ways of living.

Effective health education is planned with input from representatives of target populations and is influenced by the nature of the health problem and setting (e.g., school, community, workplace, or health care organizations). Health education methodologies and strategies are uniquely tailored to address the circumstances of a given population, person, or situation, and are consistent with empirically supported health education and learning theories.

Health educators have knowledge of scientific, behavioral, cultural, and philosophical foundations of health and health behavior. As a result of their professional preparation, health educators are able to apply this knowledge in planning, implementing, and evaluating health education programs.

This Code of Ethics provides a common set of values designed to guide health educators in resolving many of the ethical dilemmas experienced in professional life. These guidelines regarding professional conduct of health educators require a commitment to behave ethically and to encourage and support the ethical behavior of others.

ARTICLE I
RESPONSIBILITY TO THE PUBLIC

Health educators' ultimate responsibility is to educate people about health in order to promote wellness and quality of life. Health educators recognize that decisions about health are made at individual, family, peer, community, societal, and global levels. When there is a conflict of interest among individuals, groups, agencies, or institutions, health educators consider all issues and give priority to the principles of responsibility and freedom of choice.

Section 1

Health educators support the right of individuals to make informed decisions regarding their own health.

Section 2

Health educators encourage actions and social policies which support the best balance of benefits over harm for all affected parties.

Section 3

Health educators accurately communicate the potential benefits and consequences of services.

Section 4

Health educators act on conditions that can adversely affect the health of individuals and communities.

Section 5

Health educators are truthful about their qualifications and the limitations of their expertise and provide services consistent with these qualifications and limitations.

Section 6

Health educators are committed to providing professional services equitably to all people.

Section 7

Health educators respect the rights of others to hold diverse values, attitudes, and opinions.

Section 8

Health educators protect individuals' privacy and dignity.

ARTICLE II
RESPONSIBILITY TO THE PROFESSION

Health educators are responsible for the reputation of their profession. Their professional behavior is consistent with the Code of Ethics. When appropriate, they consult with colleagues in order to promote ethical conduct.

Section 1

Health educators maintain their professional competence through continued study and education.

Section 2

Health educators treat all individuals equitably in professional actions (e.g., hiring, promotion, retention, work assignments, and admission policies) regardless of age, gender, race, ethnicity, national origin, religion, sexual orientation, disability, socioeconomic status, or any basis prescribed by law.

Section 3

Health educators encourage and accept critical discourse in order to improve the profession.

Section 4

Health educators contribute to the development of the profession by sharing program components they have found to be effective.

Section 5

Health educators do not manipulate or violate others' rights in sexual, emotional, financial, or other ways.

Section 6

Health educators are aware of possible conflicts of interest and exercise integrity in these situations.

Section 7

Health educators give appropriate recognition to students and colleagues for their professional contributions.

ARTICLE III
RESPONSIBILITY TO EMPLOYERS

Health educators recognize the boundaries of their professional competence. They provide services and programs for which they are qualified by education and experience and they are accountable for their professional activities.

Section 1

Health educations accurately represent their own qualifications and the qualifications of others they recommend.

Section 2

Health educators use current professional standards, theory, and guidelines as criteria when accepting consultations, when delegating health education activities, and when making referrals.

Section 3

Health educators accurately represent potential program outcomes to employers.

Section 4

Health educators make known competing commitments, conflicts of interest, and endorsement of products when the quality of health education delivered could be adversely affected by these activities.

Section 5

Health educators openly communicate to employers when expectations or job-related assignments conflict with professional ethics.

ARTICLE IV
RESPONSIBILITY IN THE DELIVERY OF HEALTH EDUCATION

Health educators promote integrity in the delivery of health education and respect the fundamental rights, dignity, confidentiality, and worth of all people by adapting strategies and methods to the needs of different populations.

Section 1

Health educators are sensitive to the variety of cultural and social norms.

Section 2

Health educators promote the right of individuals and groups to be actively involved in all aspects of the educational process.

Section 3

Health educators use educational strategies and methods that reflect the Code of Ethics and applicable laws. If neither law nor the Code of Ethics provides guidance in resolving an issue, health educators consider other professional standards as well as their own personal standards of ethical behavior, and consult other health educators.

Section 4

Health educators implement strategies and methods that enable individuals to adopt healthy lifestyles through choice rather than by coercion.

Section 5

Health educators conduct regular evaluations of program effectiveness.

Section 6

Health educators provide educational interventions that are grounded in a theoretical framework and supported by empirical evidence.

ARTICLE V
RESPONSIBILITY IN RESEARCH AND EVALUATION

Health educators contribute to the health of the population and to the profession through research and evaluation activities. When planning and conducting research or evaluation, health educators do so in accordance with federal and state laws and regulations, organizational and institutional policies, and professional standards.

Section 1

Health educators conduct research in accordance with recognized scientific and ethical standards.

Section 2

Health educators ensure that the consent of participants in research is voluntary and informed.

Section 3

Health educators implement standards to protect the rights, health, safety, and welfare of human research participants.

Section 4

Health educators maintain confidentiality and protect the privacy of research participants in accordance with law and professional standards.

Section 5

Health educators take credit, including authorship, only for work they have actually performed and give credit to the contributions of others.

Section 6

Health educators who serve as research or evaluation consultants discuss their results only with those to whom they are providing service, unless maintaining such confidentiality would jeopardize the health or safety of others.

Section 7

Health educators honor commitments they have made to research participants.

Section 8

Health educators report the results of their research and evaluation accurately and in a timely fashion.

CONCLUSION

The AAHE Code of Ethics was developed over a two year period of time by a committee appointed by the AAHE president. Over 500 health educators working in a variety of settings participated in providing opinions on the various drafts of the document. Credit is given to SOPHE's Code of Ethics which served as a basis for the development of this document. The preface includes information adopted from the report of the 1990 joint committee on health education terminology and a joint document of WHO and IUHE published in 1991, titled "Meeting Global Challenges: A Position Paper on Health Education."

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